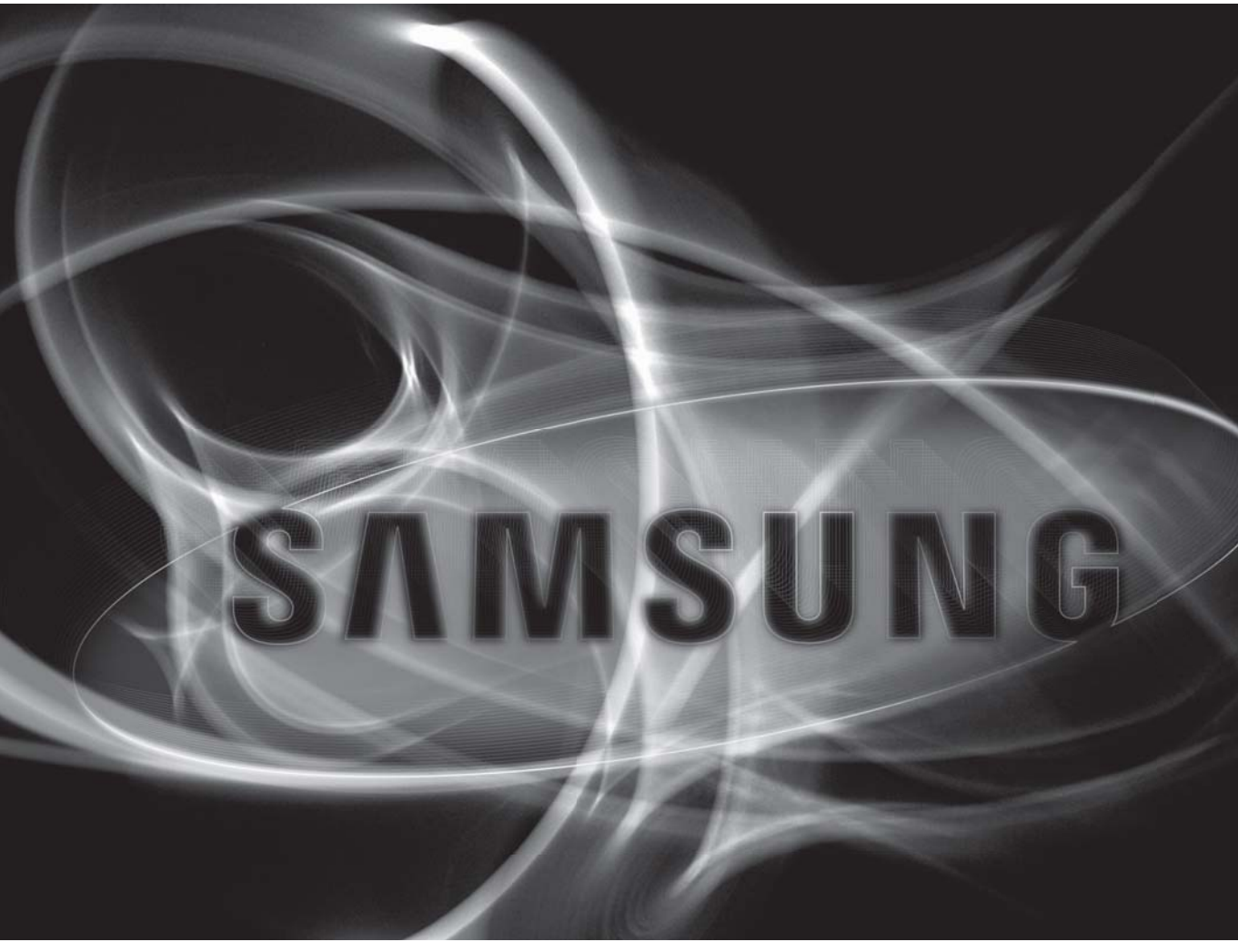
SAMSUNG TECHWIN

8 Channel
16 Channel DVR

User Manual

SRD-830DC/850DC/870DC/
1610DC/1630DC/1650DC/1670DC



SAMSUNG

overview

FEATURES

The SRD DVR (Digital Video Recorder) employs H.264 video encoding for 8 or 16 channel inputs and G.723 audio encoding for 4 or 16 channels while simultaneously supports hard disc recording and playback.
These DVRs also supports network connectivity, providing remote monitoring from a remote PC transferring video and audio data.

- Provides convenient User Interface
- 8/16 CH Composite Input Connectors
- Supports CIF(S)/2CIF(M)/4CIF(L) recording formats
- With the network specific codec, network transfer enabled regardless of the recording conditions
- De-interlacing processor for better picture quality
- HDMI enabling superior picture output quality
- Display of HDD information and status by using HDD SMART
- 4CIF Size (NTSC: 704*480, PAL: 704*576) Recording in 480 (NTSC)/400 (PAL) IPS speed (SRD-870DC/1670DC)
- CIF(S) Size (NTSC: 352*240, PAL: 352*288) Recording in 480 (NTSC)/400 (PAL) IPS speed (SRD-850DC/1650DC)
- CIF(S) Size (NTSC: 352*240, PAL: 352*288) Recording in 240 (NTSC)/200 (PAL) IPS speed (SRD-1630DC)
- CIF(S) Size (NTSC: 352*240, PAL: 352*288) Recording in 120 (NTSC)/100 (PAL) IPS speed (SRD-830DC/1610DC)
- 8/16-channel Loop Through Video port connection
- Hard Disk overwrite function
- Mass storage hard disk backup through high-speed USB 2.0
- Mass storage hard disk backup through eSATA (SRD-850DC/870DC/1650DC/1670DC)
- Backup function using USB 2.0 flash memory and external CD/DVD writer
- Simultaneous Record and Playback of 8/16-channel video data
- Various Search Modes (Search by Time, Event, Backup, POS and Motion Detection)
- Various Recording Modes (Time Lapse, Event, Scheduled Recording)
- Editing capabilities to split and export parts of a recorded video as well as color, brightness and contrast control.
- Extended Hard Disk Connection (USB 2.0, eSATA) (SRD-850DC/870DC/1650DC/1670DC)
- Alarm Interface (Input: 8/16, Output: 4, Reset: 1)
- Remote Monitoring function by Windows Network Viewer

IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit.
Follow all the safety instructions listed below.
Keep these operating instructions handy for future reference.

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding- type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. if the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

BEFORE START

This user manual provides Information for using the DVR such as brief introduction, part names, functions, connection to other equipment, menu setup, etc.
You have to keep in mind the following notices :

- SAMSUNG retains the copyright on this manual.
- This manual cannot be copied without SAMSUNG's prior written approval.
- We are not liable for any or all losses to the product incurred by your use of non-standard product or violation of instructions mentioned in this manual.
- Prior to opening the case, please consult a qualified technician first. Whenever this is needed power must be removed from the unit.
- Before installing an additional HDD or connecting an external storage device (USB memory or USB HDD) to this DVR, check the compatibility. Consult your provider for the compatibility list.

Warning

❖ Battery

It is essential that when changing the battery in the unit, the replacement battery must be of the same type otherwise there may be a possibility of an explosion.
The following are the specifications of the battery you are using now.

- Normal voltage : 3V
- Normal capacity : 170mAh
- Continuous standard load : 0.2mA
- Operating temperature : -20°C ~ +85°C (-4°F ~ +185°F)

CALIFORNIA USA ONLY
This Perchlorate warning applies only to primary CR (Manganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA.
"Perchlorate Material - special handling may apply,
See www.dtsc.ca.gov/hazardouswaste/perchlorate."

- Connect the power cord into a grounded outlet.
- The Mains plug is used as a disconnect device and shall stay readily operable at any time.
- Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.

❖ System Shutdown

Turning off the power while the product is in operation, or undertaking improper actions may cause damage or malfunction to the hard drive or the product.
Please turn off the power using the Power button on the front of your DVR.
After selecting <**OK**> in the pop-up menu, you can pull off the power cord.
You may want to install a UPS system for safe operation in order to prevent damage caused by an unexpected power stoppage. (Any questions concerning UPS, consult your UPS retailer.)

❖ Operating Temperature

The guaranteed operating temperature range of this product is 0°C ~ 40°C (32°F ~ 104°F).
This product may not work properly if you run right after a long period of storage at a temperature below the guaranteed one.
Prior to using a device that has been stored for a long period in low temperatures, allow the product to stand at room temperature for a period.
Especially for the built-in HDD in the product, its guaranteed temperature range is 5°C ~ 55°C (41°F ~ 131°F). Likewise, the hard drive may not work at a temperature below the guaranteed one.

❖ Ethernet Port

This equipment is in door use and all the communication wirings are limited to inside of the building.

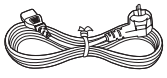
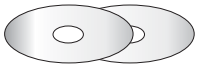
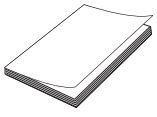
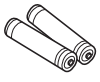
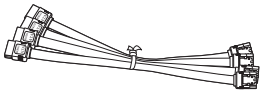
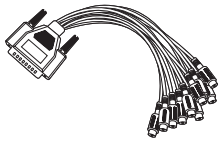
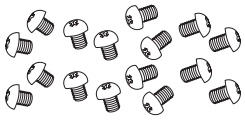
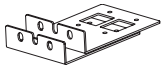
Standards Approvals

FC CE

- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
  This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Package Contents

Please unwrap the product, and place the product on a flat place or in the place to be installed.
Please check the following contents are included in addition to the main unit.

		
Remote Control	Mouse	Power Cable
		
Network Viewer Software / User Manual CD	User Manual	Remote Control Battery (AAA)
		
SATA Cable (4EA)	Audio Extension Cable (optional) (SRD-850DC/870DC/1650DC/1670DC)	HDD Fixing Screw (16EA)
		
Bracket Fixing Screw(4EA)	Bracket Rack	

- For models that are not equipped with the HDD, one SATA cable is provided for HDD installation.

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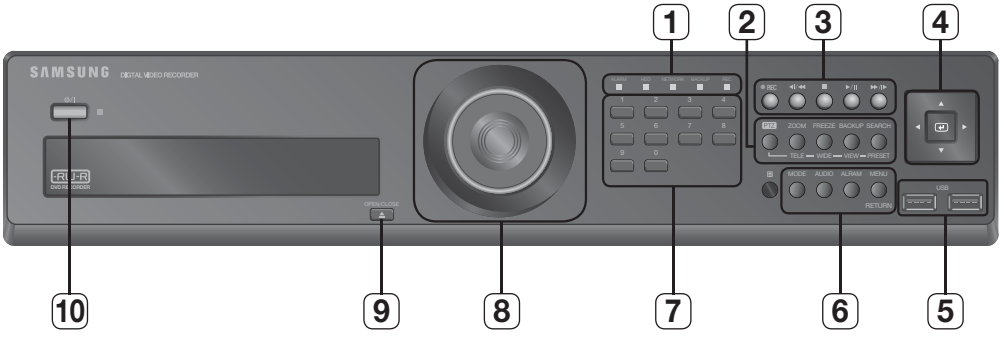
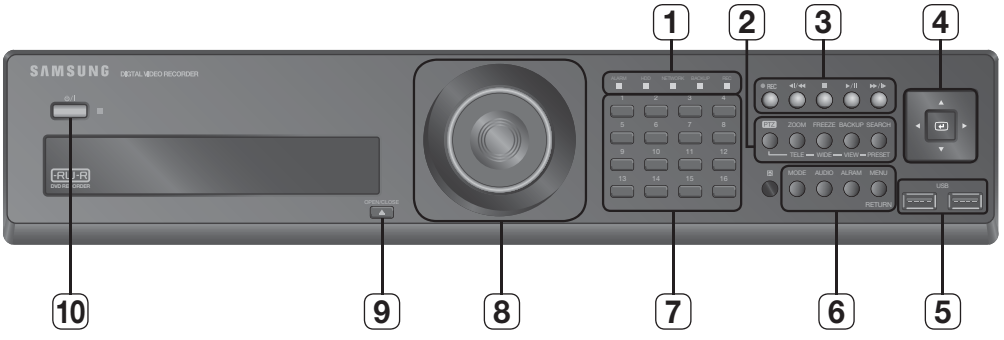
PART NAMES AND FUNCTIONS (FRONT)

830DC/850DC/870DC



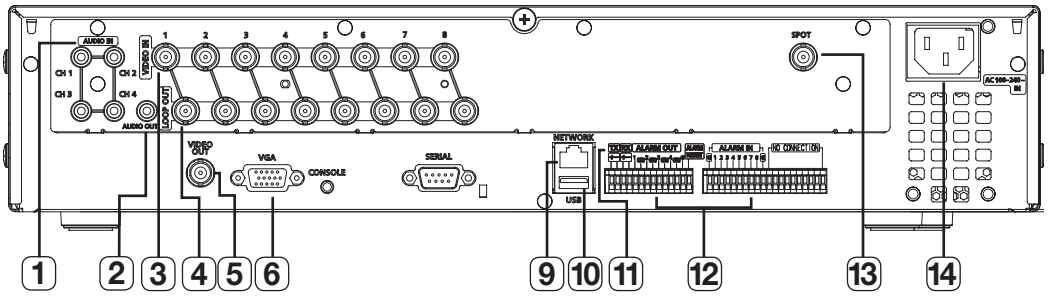
1610DC/1630DC/1650DC/1670DC



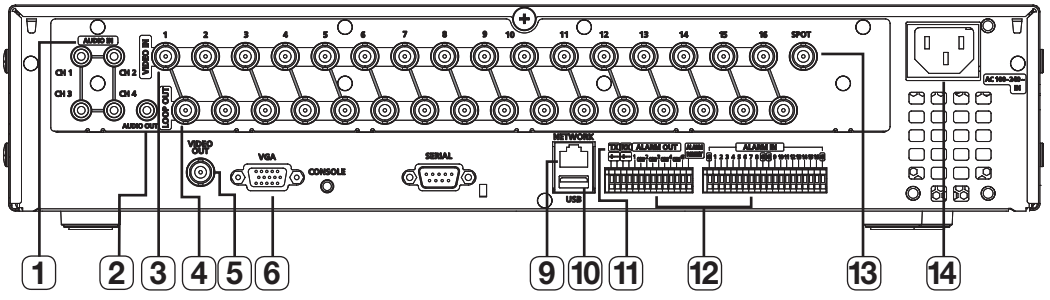
Part Names		Functions
1	LED Indicator	**ALARM** : Lights on when an event occurs.
		HDD : Displays the normal access to HDD. Upon access to HDD, LED repeats on and off.
		NETWORK : Displays both network connection and data transfer status.
		BACKUP : Displays when Backup is in progress.
		REC : Lights on when recording is in progress.
2	Camera Control	**PTZ** : Sets PTZ Mode ON/OFF.
		ZOOM(TELE) : Sets the screen to the x2 digital zoom. Runs the TELE function in the PTZ Mode.
		FREEZE(WIDE) : Runs the FREEZE function in the Live Mode. Runs the WIDE function in the PTZ Mode.
		BACKUP(VIEW) : Runs the BACKUP function. Runs the Preset View function in the PTZ Mode.
		SEARCH(PRESET) : Goes to the search screen. Runs the Preset Setup function in the PTZ Mode.
3	REC	Starts or ends the recording.
	◄I/◄◄	**Step Rewind** (◄I) : Used for backward frame-by-frame search while in PAUSE. **Fast Rewind** (◄◄) : Used for quick backward search while in Play. (-x2, -x4, -x8, -x16, -x32, -x64)
	■	**Stop** : Used to stop the playback.
	►/II	**Play/Pause** : Used to pause or resume the screen.
	►►/I►	**Fast Forward** (►►) : Used for quick forward playback. (x2, x4, x8, x16, x32, x64) **Step Forward** (I►) : Used for forward frame-by-frame search while in PAUSE.
4	Direction / Select Button	Used to change a value or move the cursor up/down/left/right (▲▼◄ ►). Selects a menu item or executes the selected menu.
5	USB Port 1 / 2	Connects the USB devices.
6	MODE	Each button press in the Live Mode switches the screen to 16-, 9-, 4-, 6-, 8-, 13- split screen, PIP, and auto sequence mode in order. In play mode, each press of the button will switch the screen mode to 16-, 9-, 4-, 1-, and 13-split in order. (1 live channel + (N-1) live channel)
	AUDIO	Sets Audio ON/OFF.
	ALARM	Cancels the ALARM LED and the audible alarm when the alarm is going off, and to remove the icon.
	MENU/RETURN	Either goes to the system menu screen or moves to the upper menu from the lower menu.
7	Channel	Used to select channel numbers directly in the Live Mode, or numbers in the numeric input mode.
8	Jog shuttle	When a scroll bar appears in each menu, acts as a scrolling. In Play mode, - Jog : Pauses the playback and steps backward or forward. - Shuttle : Fast playback forward or backward.
9	OPEN/CLOSE	Used to open and close the DVR-RW disc tray.
10	Power	**Power LED** : Displays the power ON/OFF status. **Power Button** : Used to turn the DVR ON/OFF.

PART NAMES AND FUNCTIONS (REAR)

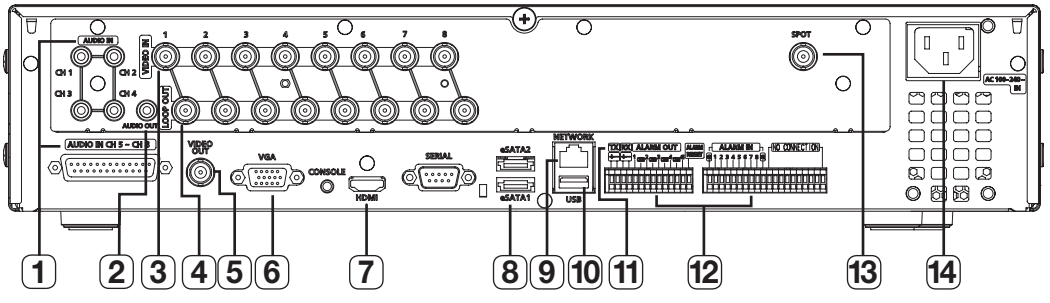
830DC



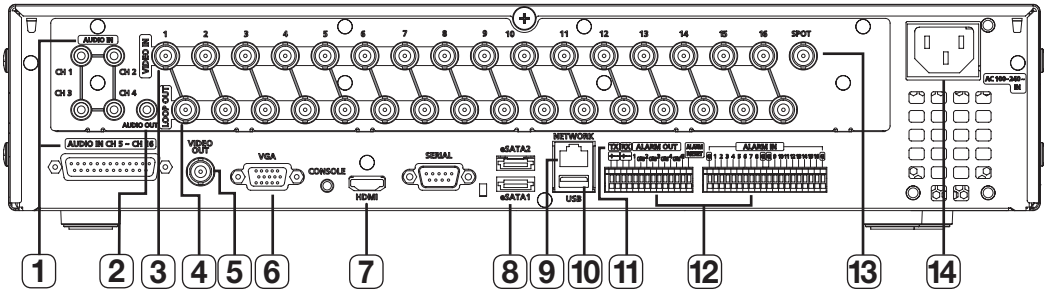
1610DC/1630DC



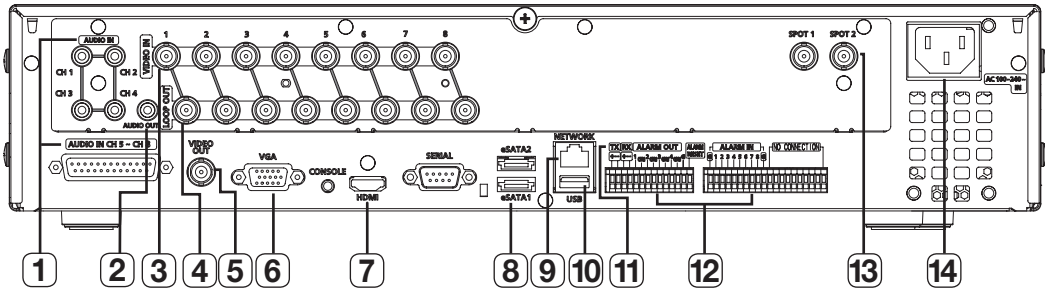
850DC



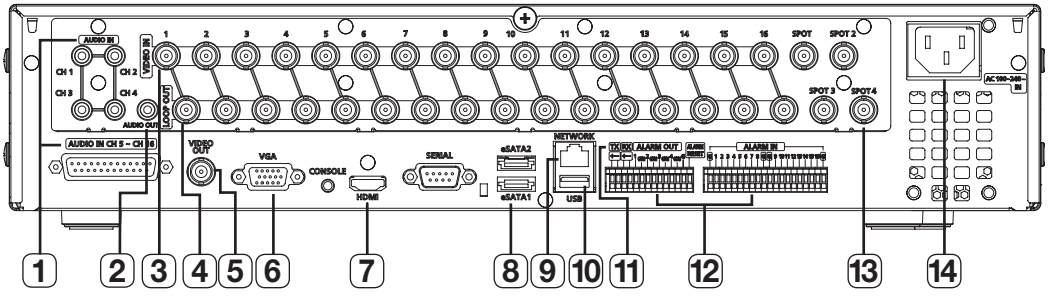
1650DC



870DC

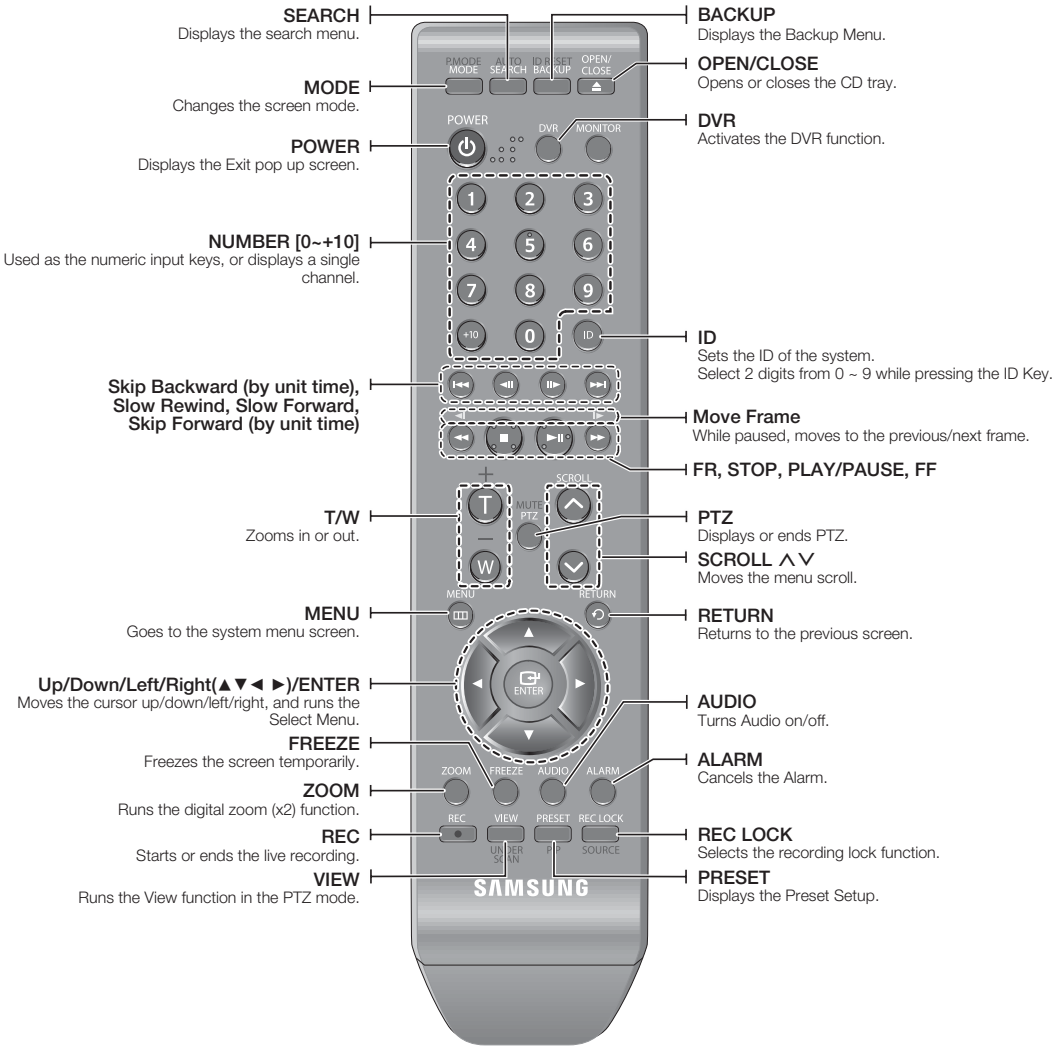


1670DC



Part Names		Functions
1	AUDIO IN	Audio input signal port (RCA jack) and port for optional audio extension cable. SRD-1650DC/1670DC (Audio 5~16CH) SRD-850DC/870DC (Audio 5~8CH)
2	AUDIO OUT	Audio Signal Output Port (RCA jack).
3	VIDEO IN	Composite Video Signal Input Port (BNC type connector).
4	LOOP OUT	Used to transfer a video signal to other video devices.
5	VIDEO OUT	Composite Video Signal Output Port (BNC type connector).
6	VGA	VGA Video Signal Output Port.
7	HDMI	HDMI connector port.
8	eSATA 1/2	Ports used for external storage device connections. (SATA HDD)
9	NETWORK	NETWORK connector port.
10	USB	USB connector port.
11	RS-485	Used for RS-485 communication. (TX+, TX-, RX+, RX-)
12	ALARM	- ALARM IN 1~16(SRD-1610DC/1630DC/1650DC/1670DC) : Alarm Input port. - ALARM IN 1~8(SRD-830DC/850DC/870DC) : Alarm Input port. - ALARM RESET IN : Alarm Reset port. - ALARM OUT 1~4 : Alarm Output port.
13	SPOT	A live screen output port, separate from the VIDEO OUT. SPOT 1 : Supports Single, 4-, 9-, 16-split, and Auto Sequence modes SPOT 2 : Supports Single, 4-split, and Auto Sequence modes (only for 5 ~ 8 CH). SPOT 3 : Supports Single, 4-split, and Auto Sequence modes (only for 9 ~ 12 CH). SPOT 4 : Supports Single, 4-split, and Auto Sequence modes (only for 13 ~ 16 CH). SRD-1670DC : SPOT 1, 2, 3, 4 SRD-870DC : SPOT 1, 2 SRD-830DC/850DC/1610DC/1630DC/1650DC : SPOT 1
14	AC 100-240V~ IN	AC 100 ~ 230V (PAL) AC 110 ~ 220V (NTSC)

REMOTE CONTROL



Using the numeric buttons

CHANNEL 1–9	Press each button between 1 to 9.
CHANNEL 10	Press the [**+10**] button first, then press the 0 button again within 3 seconds.
CHANNEL 11–16	Press the [**+10**] button first, then press any number between 1 to 6 within 3 seconds.

Changing the Remote Control ID

1. Press the ID button of the remote control and check the ID displayed on the DVR screen.
   The factory default ID of the remote control is 00.
2. Enter 2 digits of your selection in order, while pressing the system [**ID**] button.
3. When ID input is done, press the system [**ID**] button again to check the setting.

▪ If you want to change the remote control ID to 08: Press 0 and 8 in order while the system [**ID**] button is pressed. Remote control's ID and DVR's ID should be matched for proper operation. Refer to "**Remote Devices**". (Page 48)

installation

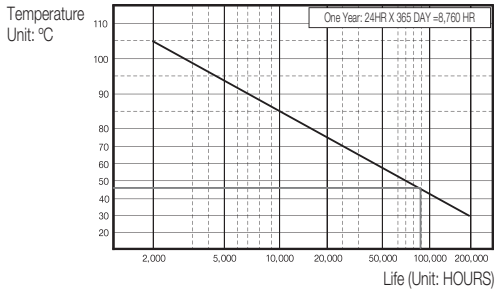
Please take note of the followings before using this product.

- Do not use the product outdoor.
- Do not spill water or liquid in the connection part of the product.
- Do not impose the system to excessive shock or force.
- Do not pull out the power plug forcefully.
- Do not disassemble the product on your own.
- Do not exceed the rated input/output range.
- Use a certified power cord only.
- For the product with an input ground, use a grounded power plug.

CHECKING THE INSTALLATION ENVIRONMENT

Samsung Digital Video Recorder ("DVR" hereinafter) is a state-of-art security device, and contains mass storage hard disk(s) and critical circuits inside.

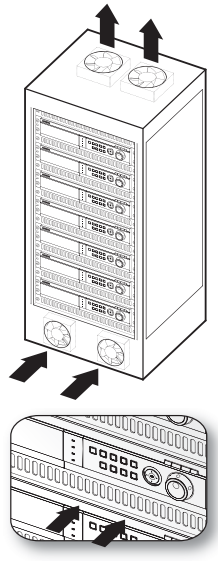
When the temperature rises inside the product, the product may breakdown and the product life be shortened. Please pay attention to the following recommendations before installation.



[Figure 1]

The followings are the recommendations when Samsung DVR is installed on a rack.

1. Please ensure that the rack inside is not sealed.
2. Please ensure the air is circulated through the inlet/outlet as shown in the picture.
3. If the DVR or other devices on a rack is to be stacked as in the picture, provide a suitable space or install a ventilating opening for air circulation.
4. For natural air convection, place the inlet at the bottom of the rack and the outlet on top.
5. It is strongly recommended that a fan motor is installed at the inlet and the outlet for air circulation. (Please fit a filter at the inlet to screen dust or foreign substances.)
6. Please maintain the temperature inside the rack or surrounding areas between 0°C ~ 40°C (32°F ~ 104°F) as shown in the figure 1.



[Figure 2]

Rack Mount Instructions - The following or similar rack-mount instructions are included with the installation instructions :

A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

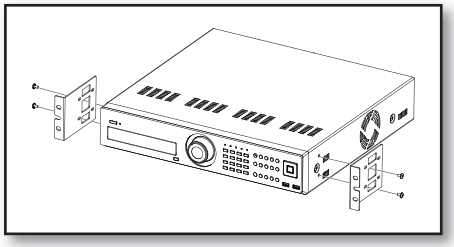
D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

RACK INSTALLATION

Install the Bracket-Rack as shown in the figure, and then fasten the screws on both sides (2 screws on each side).

- Fix the screws not to be loosened by vibrations.



HDD ADDITION

You can install additional HDDs.
Make sure to unplug the power cord from the wall outlet to prevent possible electric shock, injury or product damage.
Please consult your provider for further information on HDD installation since improper installation or settings may damage the product.

- Number of HDDs supported : Default 1 HDD + Up to 4 HDDs added
- Make sure to unplug the power cord from the wall outlet before proceeding with the installation.
- By factory default, the unit is equipped with one HDD.

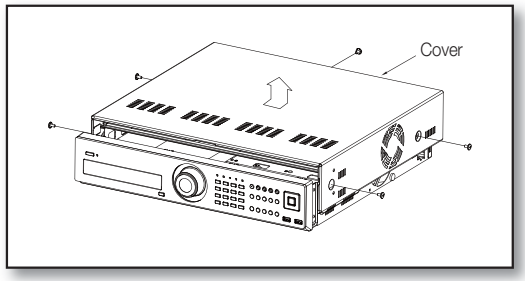
- **Cautions for data loss (HDD care)**
  Please pay attention so that the data inside the HDD is not damaged.
  Before adding a HDD, please check the compatibility with this DVR product.
  HDD is vulnerable to malfunction due to its sensitive nature especially against shock when operating.
  Please ensure that the HDD is free from such shock.
  We are not liable for any damage to the HDD incurred by user's carelessness or miss use..
- **Cases might cause damage to HDD or recorded data**
  To minimize the risk of data loss from a damaged HDD, please backup data as often as possible.
  Data may be lost due to external impacts during disassembly or installation of the DVR.
  HDD may be damaged if the DVR is suddenly stopped by a power cut or power off during operation.
  HDD or files stored inside may be damaged if the main body is moved or impacted during the HDD operation.

Cautions when adding a HDD

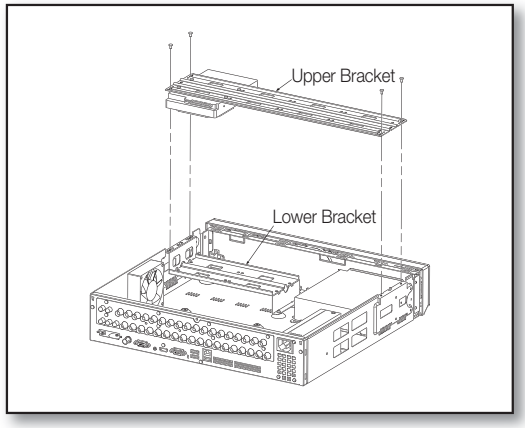
1. When adding a HDD, ensure that the cable does not get caught or the insulation does not come off.
2. Pay attention so as not to lose the disassembly screws or accessories.
   - If the screws or accessories are not put together correctly, the product may breakdown or not operate properly.
3. Please check the HDD compatibility before adding a HDD.
   - Please contact your nearest dealer to obtain the list of compatible devices.

installation

1. First, loosen the screws on both sides and remove the cover.

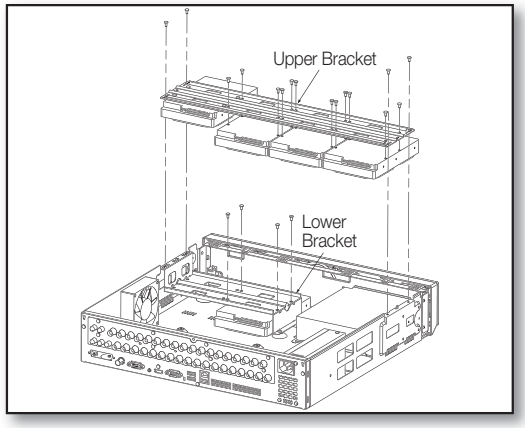


2. Disconnect the power and HDD Signal cable from the existing HDDs, then loosen the screws (x4) in the left/right and upper sides and remove the upper brackets.

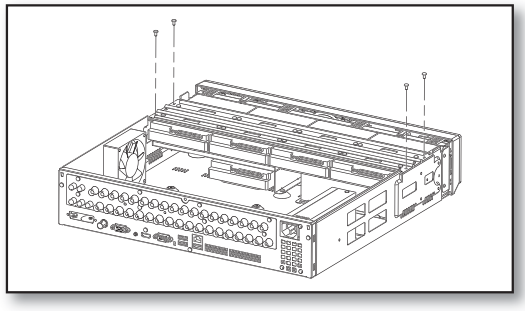


3. Install a HDD (x1) on the lower bracket and fix it with screws.
Firmly secure the screw so that it does not become loose from vibration.

4. Install HDDs (x3) on the upper bracket and fix them with screws.

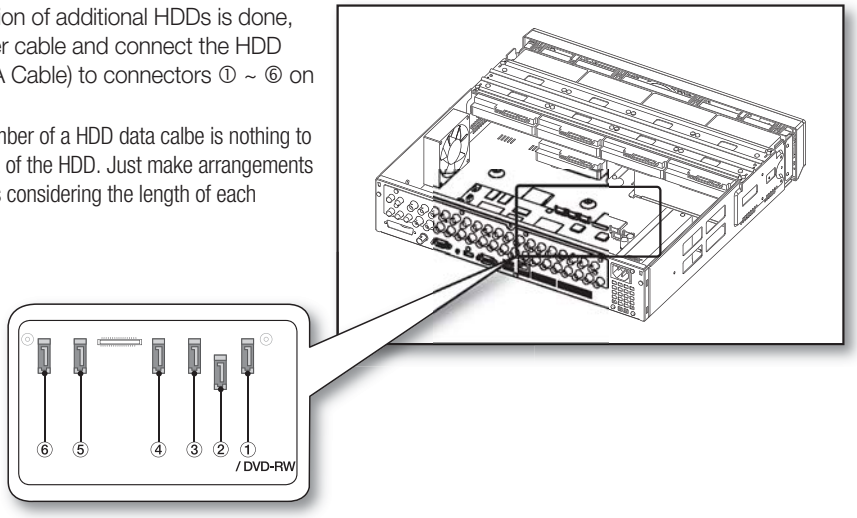


5. When the installation of additional HDDs is done, insert the lower and upper brackets into the DVR and fix them with the provided screws.

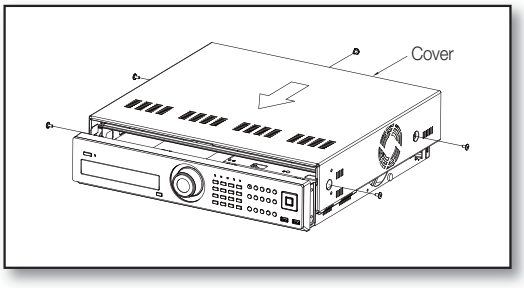


6. When the installation of additional HDDs is done, connect the power cable and connect the HDD data cables (SATA Cable) to connectors ① ~ ⑥ on the main board.

- Note that the number of a HDD data calbe is nothing to do with operation of the HDD. Just make arrangements of the connectors considering the length of each connector.



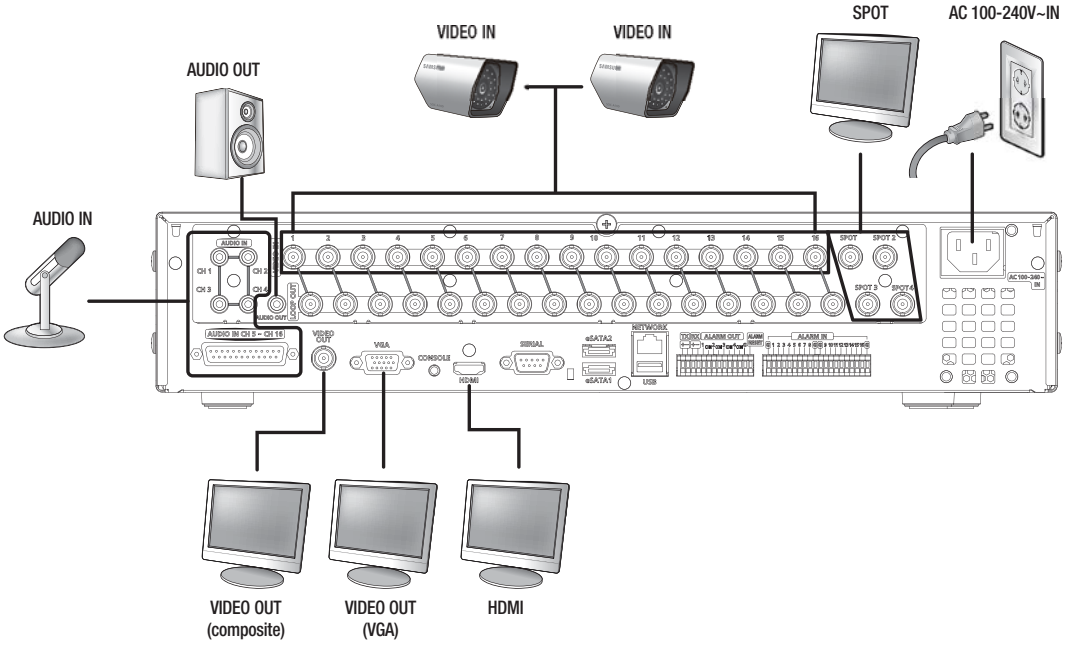
7. Check if the connectors are properly connected and there is no problem with wiring, and close the cover and fix it with screws.



connecting with other device

■ The following figures are based on Model SRD-1670DC.

CONNECTING THE VIDEO, AUDIO, AND MONITOR



CONNECTING THE USB

1. There are two USB ports at the front and one at the back of the product.
2. You can connect a USB HDD, USB CD/DVD player, USB memory or mouse to the USB port.
3. If a USB HDD is connected to the system, recognition and settings are available in "**Menu** > **Setting the Device** > **Storage Device**". (Page 46)
4. This product supports hot-plugging, which connects/removes the USB device during the system operation.

■ If you use the USB device for Backup purposes, format it with FAT32 on PC if it is not formatted on the DVR.

CONNECTING EXTERNAL SATA HDD

- SRD-830DC/1610DC/1630DC does not support a port for SATA connection.

1. There are two external SATA ports on the rear side of the product.
2. If an external SATA HDD is connected to the system, recognition and settings are available in "**Menu** > **Device** > **Storage Device**".
3. The DVR supports Hot Plug function to allow connection and disconnection of SATA HDD devices while the system is in use.

- Only one SATA HDD can be connected to an external SATA port.
- Use a cable shorter than 1 m for the external SATA HDD connections.

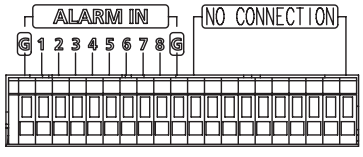
CONNECTING POS DEVICE

1. You can connect a POS device to the RS-232C port on the product's rear side when you connect it directly with a RS-232C cable.
2. Connection setup for the RS-232C port is available in "**Menu** > **Device** > **POS Devices**", press the <**POS Device Setup**> button and set <**Baudrate, Parity, Data, Stop bit and Transfer Type**>. (Page 49)

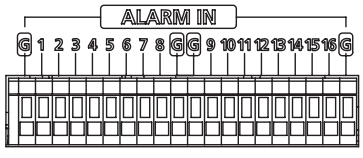
CONNECTING THE ALARM INPUT/OUTPUT

The Alarm In/Out port at the back is composed of the following.

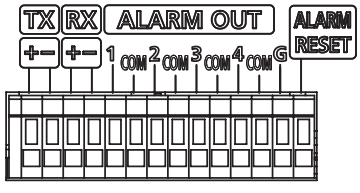
1. Alarm In Port for SRD-830DC/850DC/870DC



2. Alarm In Port for SRD-1610DC/1630DC/1650DC/1670DC

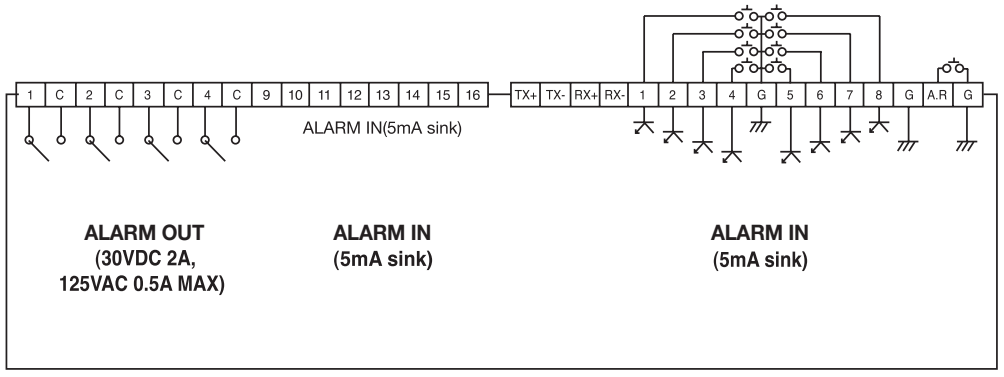


3. Alarm Out Port



connecting with other device

- ALARM IN 1 ~ 8 (SRD-830DC/850DC/870DC) : Alarm Input Port
- ALARM IN 1 ~ 16 (SRD-1610DC/1630DC/1650DC/1670DC) : Alarm Input Port
- ALARM RESET : On receiving an Alarm Reset signal, the system cancels the current Alarm Input and resumes sensing.
- ALARM OUT 1 ~ 4 : Alarm Output Port


1 C 2 C 3 C 4 C 9 10 11 12 13 14 15 16
ALARM IN(5mA sink)
TX+ TX- RX+ RX- 1 2 3 4 G 5 6 7 8 G A.R G
ALARM OUT
(30VDC 2A,
125VAC 0.5A MAX)
ALARM IN
(5mA sink)
ALARM IN
(5mA sink)

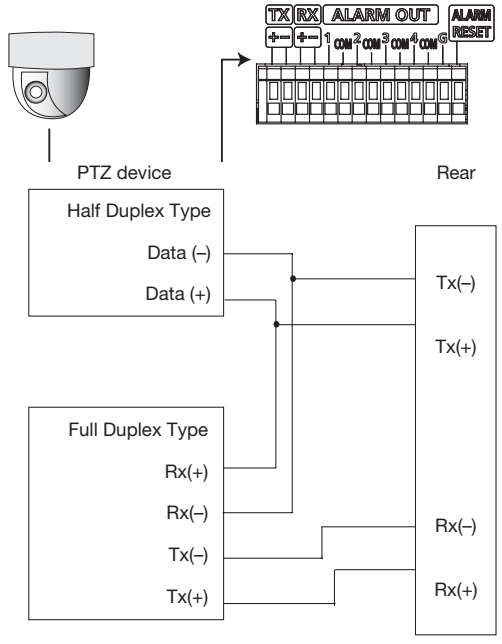
CONNECTING THE RS-485 DEVICE

Connect the RS-485 device through the back port.

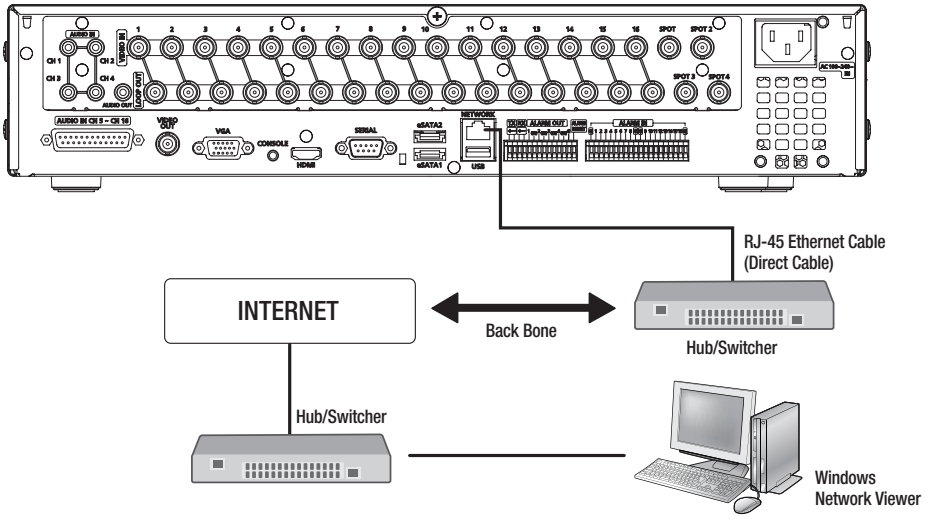
- You can connect and control the PTZ camera which supports the RS-485 communication.

- Transfer Type : You may select either Half Duplex or Full Duplex as the data transfer type.
- Baud Rate : Supported Baud rates are 600/1200/2400/4800/9600/19200/38400.

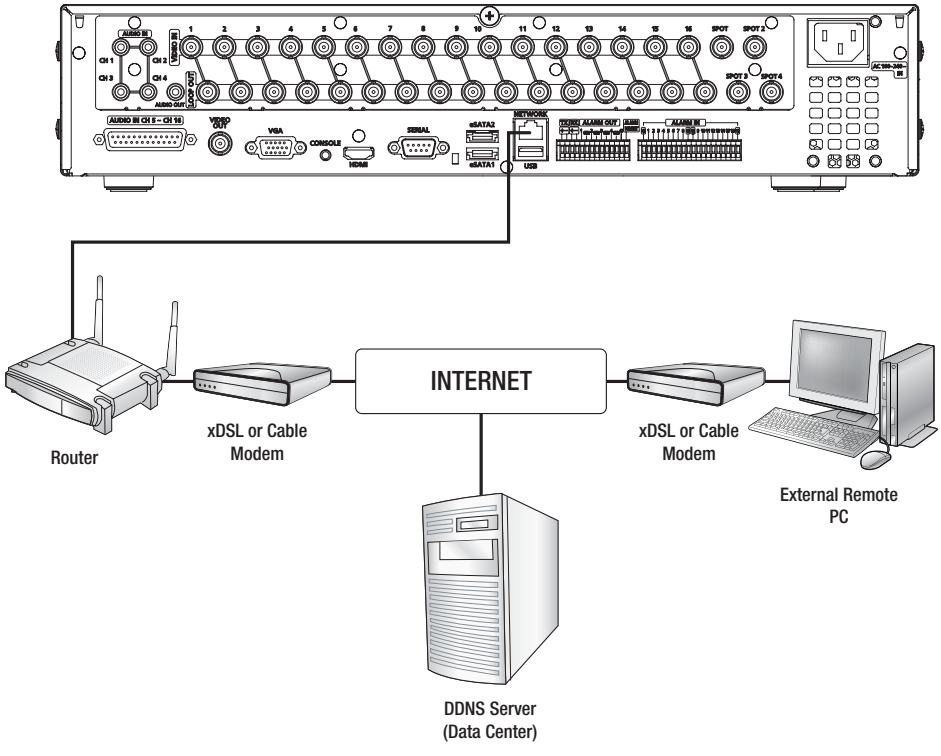
- Check if the RS-485 device is compatible with the product first.
- Pay attention not to change the polarity (+/–) of the RS-485 device when connecting it.
- Depending on camera's type, connection polarity can be different.
  For further information, refer to the respective PTZ Camera's documentation.
- Ex : DVR(TX+/–) ↔ SCC-C6433,35(RX+/–)
  DVR(TX+/–) ↔ SCC-C6403,07(TX+/–)



Connecting to Internet through Ethernet (10/100/1000BaseT)

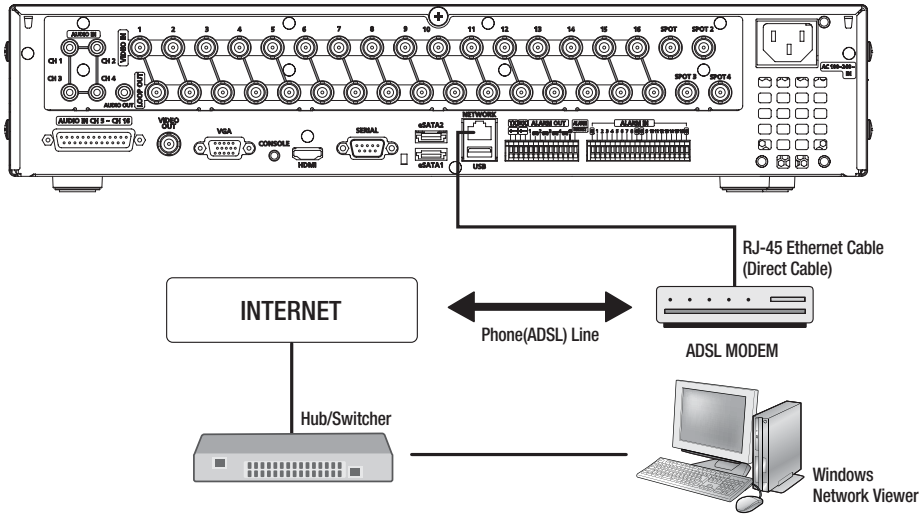


Connecting to the Internet using the router



connecting with other device

Connecting to Internet through ADSL



GETTING STARTED

Starting the system

1. Connect the power cable of the DVR to the wall outlet.
2. Press the Power button on the front panel.

3. You will see the initialization screen.
   The initialization process will last about 1 minute.
   If a new HDD is installed, the initialization process may take longer.

4. The live screen appears with a beep.

Shutting Down the System

You can shut down the system only if you have logged in to the DVR.
You require permission to shut down the system if you are not logged in as admin.

1. Press the [**POWER**] button on the remote control or the front panel, or right-click to display the context sensitive menu and select <**Shutdown**>.
2. The "**Shutdown**" confirmation window appears.
3. Use the arrow keys on the remote control or the front panel to move to <**OK**> and press the [**ENTER**] button or click <**OK**>.
   The system will shut down.

▪ For the permission management, refer to "**Permission Management** > **Setting Permissions**". (Page 39)

Login

To access a DVR or restricted menu, you should have logged in to the DVR.

1. In live mode, right-click any area of the screen.
You will see the context sensitive menu as in the right figure.

2. Click <**Login**>.
The login dialog appears.
You can also see the login dialog to access a desired menu by pressing the [**MENU**] button on the remote control or the front panel.

- The login dialog will also appear if you press a menu button on the remote control or the front panel of the DVR when the corresponding menu requires logging in.
- By default, initial ID and password are set to "**admin**", and "**4321**".

- For the restricted permission, refer to "**Permission Management** > **Setting Permissions**". (Page 39)

Locking All Buttons

This will restrict access to all buttons available in the DVR.

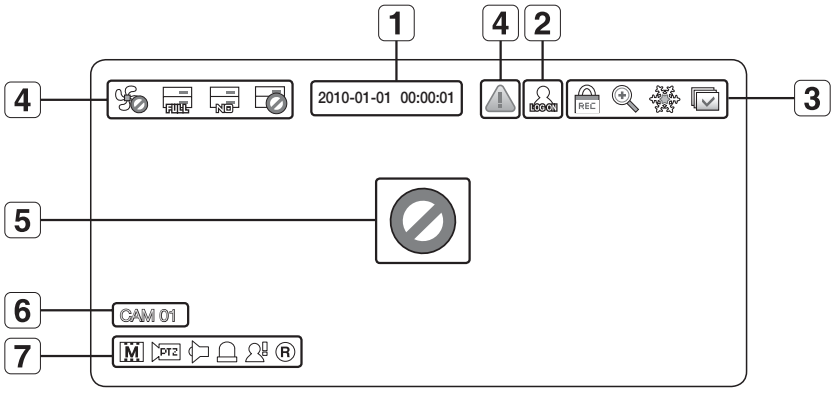
1. In Live mode, press buttons in the order of [**STOP**]→[**FREEZE**]→[**STOP**]→[**FREEZE**]→[**MENU**].
All buttons will be locked.

2. In the lock condition, press any button to display a dialog where you are prompted to enter the password for unlocking the buttons.
The button lock will be released if you enter the admin password.

LIVE SCREEN CONFIGURATION

Icons on the Live Screen

You can check the status or operation of the DVR with the icons on the live screen.



Name			Description
1	Current Date, Time		Displays the current time and date.
2	Login Information		When you are logged in, the "**LOG ON**" icon will be displayed.
3	Screen Mode		Displayed if the zoom function is activated.
			Displayed if you press the Pause button.
			Displayed in Auto Sequence mode where all channels are switched at the specific time interval.
			Displayed if the recording is in process. To cancel the recording, enter the password.
4	System Operation		Displayed if there is a problem with the cooling fan.
			Displayed if the HDD is full and the DVR has an insufficient space to record.
			Displayed if no HDD is installed or the existing HDD should be replaced.
			Displayed if the HDD needs a technical examination.
			Displayed if a new firmware is found from the network.
5	Video Input Status		Displayed if no input is entered in the condition that the camera is set to <**ON**>.
			Nothing will be displayed on the screen if the camera is set to <**OFF**>.
6	Camera Name/ Channel		Displays the camera name and the changed channel, if any.
7	Camera Operation	L / M / S	Displays the resolution of the recording screen. (Page 54)
		PTZ	Displayed in PTZ setting, and highlighted yellow if PTZ is in operation.
			Displays AUDIO ON/MUTE. Not displayed in video mode if deactivated.
			If the sensor is set to <**ON**>, the input signal will be displayed on the screen of the connected channel.
			Displayed if a motion detected in the condition that the motion detection is set to <**ON**>.
		R / E / S	Displays the current record mode from Record/Event/Schedule.

Error Information

- If you turn on the system when the internal HDD is not connected or an error occurs, the “HDD FAIL” icon ( ) will be displayed on the top left corner. In this case, make sure you contact the service center for assistance as this may cause a failure of recording, playback or backup.
- If the cooling fan does not work properly or has a problem, the <**Fan Information**> window will appear and the fan error icon ( ) will be displayed on the top left corner. In this case, check to see if the internal fan works.
  As a fan error can shorten the product life, make sure you contact the service center for assistance.

▪ If you see the fan error icon or No HDD, HDD FAIL icons on the screen, contact the service center for more details.

Live Screen Menu

In addition to the buttons on the front panel or the remote control, you can access a desired menu by right-clicking the mouse any area in live mode.
The context sensitive menu that appears by right-clicking the screen may differ, depending on the login/logout, screen split mode and DVD operation mode.

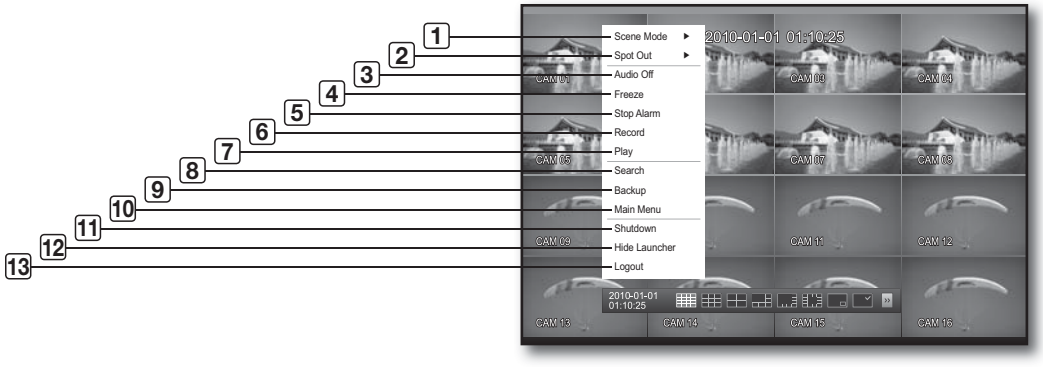
▪ Menu items of Search, Record, Backup, Shutdown and PTZ can be deactivated, depending on the user permission.

< Split Mode Menu >

< Single Mode Menu >

Split Mode Menu

The context sensitive menu in split mode differs, depending on the login/logout status.



Menu		Description
1	Scene Mode	Refer to "**Live Mode**". (Page 29)
2	Spot Out	Refer to "**Spot Out**". (Page 31)
3	Audio On/Off	Refer to "**Audio ON/OFF**". (Page 32)
4	Freeze	Refer to "**Freeze**". (Page 32)
5	Stop Alarm	Stops the alarm output and the event monitoring. Refer to "**Event Monitoring**". (Page 33)
6	Record/Stop	Starts/stops the standard recording.
7	Play	Plays the search result (data). Refer to "**Search & Play** > **Play**". (Page 71)
8	Search	Refer to "**Search & Play** > **Search**". (Page 68)
9	Backup	Refer to "**Using the DVR** > **Setting the Backup**". (Page 58)
10	Main Menu	Accesses the main menu. Refer to the Using the DVR section. (Page 34)
11	Shutdown	Turns down the DVR.
12	Show/Hide Launcher	Shows or hides the launcher. Refer to "**View the Launcher Menu**". (Page 28)
13	Login/Logout	You can log in or out.

Single Mode Menu

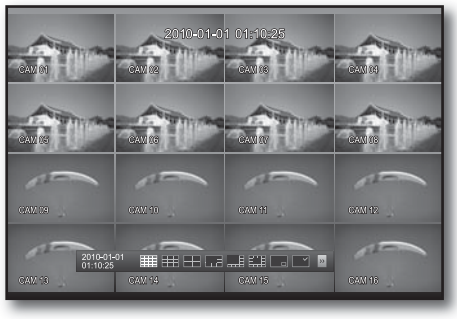
The single mode menu is available only in Single Mode.
The context sensitive menu for the One Channel mode, in Split mode is different from that of the Single mode.

Menu		Description
1	Full Screen	Select and click a desired channel in Split mode to switch to the full screen of the selected channel.
2	PTZ Control	Accesses the PTZ Control menu. The PTZ menu is activated only in One-Channel Live mode. (Page 66)
3	ZOOM	Enlarges the selected image. (Page 32)

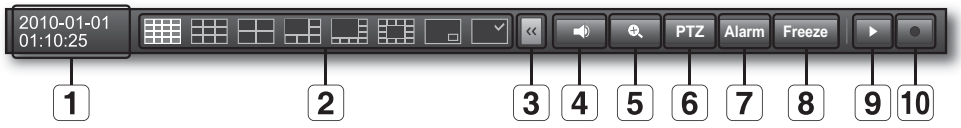
View the Launcher Menu

The Launcher menu appears on the bottom of the live screen.

1. In Live mode, right-click to display the context menu and select <**Show Launcher**>.
2. Move the cursor to the bottom and click a desired item in the Launcher menu.



- If no input is entered for 10 seconds, the menu will disappear.
- The Launcher menu can be accessed only by using the mouse.
- SRD-830DC/850DC/870DC do not support the 16-split screen mode.



Menu		Description
1	Date/Time	Displays the current time and date. The indication of AM/PM is displayed if you set 12 hours for the time format in "**System** > **Date/Time/Language** > **Time**". (Page 34)
2	Screen Mode	Displays in the sequence of 16-, 9-, 4-, 6-, 8-, 13-split, PIP and Auto Sequence. The current mode is highlighted in white.
3	Menu Expansion Button	Click to display the hidden menu to the right.
4	Audio	Turns ON/OFF the sound of the selected channel.
5	Zoom	Enlarges the selected area. This is available only in Single Live mode.
6	PTZ	Runs the PTZ Control launcher. This is available only in Single Live mode.
7	Alarm	Stops the alarm if it's activated.
8	Freeze	Freezes the Live screen temporarily.
9	Play	Enters Play mode if a file to play exist, and if not, enters Search mode.
10	Record	Start/End recording the Live screen.

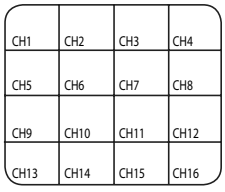
LIVE MODE

SRD-1610DC/1630DC/1650DC/1670DC display Live images from 16 channels in a total of 8 layout of split screens.

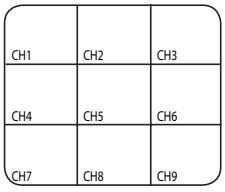
Switching the screen mode

To switch the split mode, select a screen mode in the launcher menu, or right-click to select a screen mode in the context menu.
Press the [**MODE**] button on the front panel or the remote control to switch the mode in the sequence of the launcher menu items.

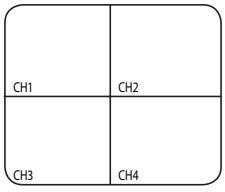
- SRD-830DC/850DC/870DC do not support the 16-split screen mode.



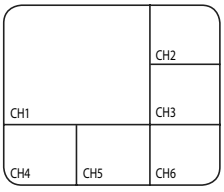
16-split mode



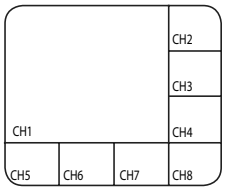
9-split mode



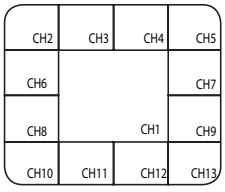
4-split mode



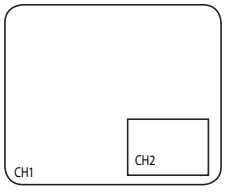
6-split mode



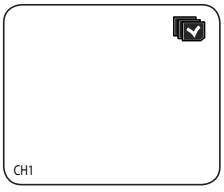
8-split mode



13-split mode



PIP

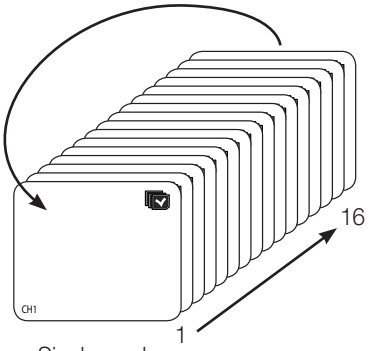


Auto Sequence

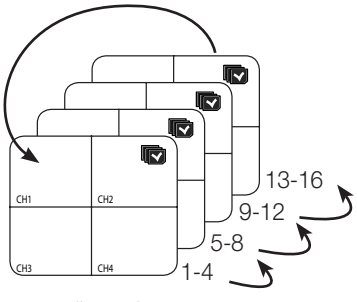
Switching the split mode

SRD-1610DC/1630DC/1650DC/1670DC display 16 Live images in the sequence of Single, 4-split and 9-split modes.

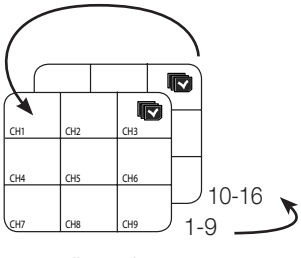
Auto Sequence



Single mode



4-split mode



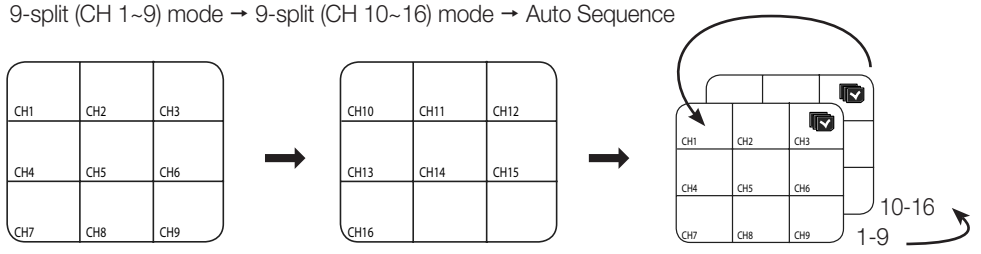
9-split mode

- In Single mode, If you have set <**SEQ-Dwell Time**> in "**Setting the Device** > **Camera**", Auto Sequence will be conducted at the set interval. (Page 44)
- In a split mode, If you have set <**Multi CH SEQ Time**> in "**Setting the Device** > **Monitor**", Auto Sequence will be conducted at the set interval. (Page 50)

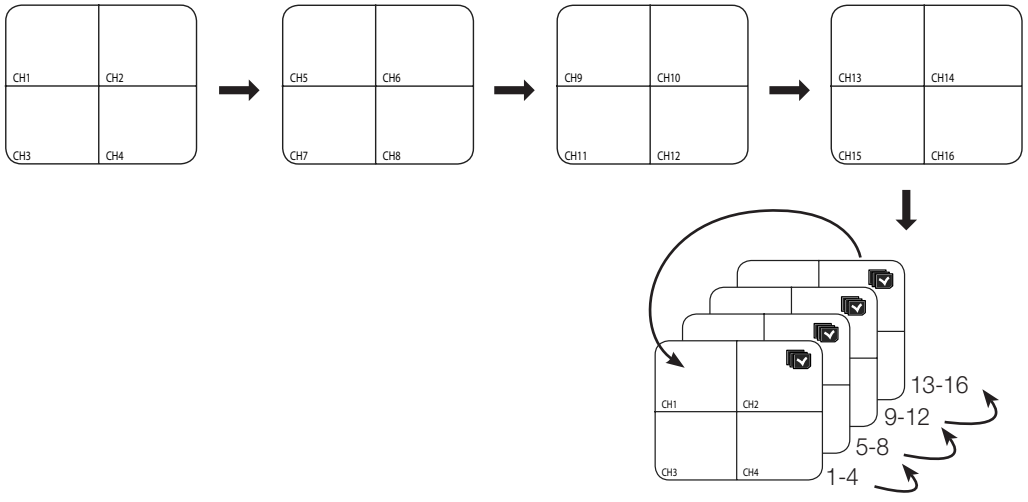
Manual Switching

Press the left/right button on the front panel or the remote control, or click the arrow <◄/►> key to move to the next split mode.

- If pressing the right [►] button in 9-split mode :
  9-split (CH 1~9) mode → 9-split (CH 10~16) mode → Auto Sequence



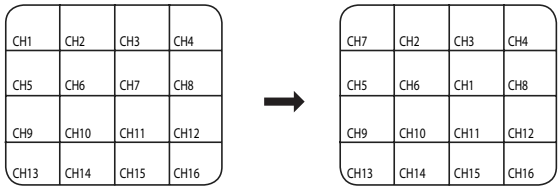
- If pressing the right [►] button in 4-split mode :
  Channel (CH 1~4) → Channel (CH 5~8) → Channel (CH 9~12) → Channel (CH 13~16) → Auto Sequence



Channel Setting

You can display the channel in a desired area of a split screen.

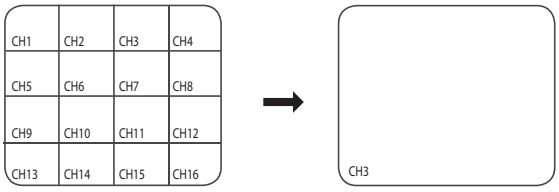
1. Place the cursor over the camera name of each channel to display the <▼> key to the right on the screen.
2. Click a camera name to display a channel list where you can select a different channel.
3. Select a desired channel and click it.
   The current channel will be switched to the selected one.
   Use the cursor to select a channel to move, and drag and drop it to a desired channel; this can also change the channel position.
   - Ex : if switching CH 1 to CH 7



Switching to Single Mode

When in split mode, select and double-click a desired channel to switch to its Single mode.
Press the number corresponding to a desired channel on the front panel or the remote control to switch to its Single mode.
Refer to "**Remote Control** > **Using the numeric buttons**". (Page 13)

- Ex : If double-clicking CH 3 or pressing the number "3" on the remote control or the front panel.



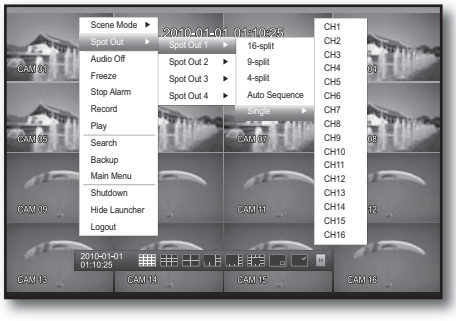
SPOT OUT

The Spot Out monitoring is independent of the Live mode, which monitors a specific channel through the Spot Out port.

Selecting a Spot Out mode

If an event occurs such as sensor, motion or alarm from the Spot Out port in connection with a monitor, you can select a output screen mode.

1. In Live mode, right-click any area on the screen.
   The Live menu appears.
2. Click Spot Out.
   The split screen appears according to the Spot Out source. (Page 51)
   - Spot Out 1 : Supports 16-, 9-, 4-split, Auto Sequence and Single modes.
   - Spot Out 2, 3, 4 : Supports 4-split, Auto Sequence and Single modes.
   - The number of Spot Out terminals differs according to the model. For the Spot Out port of a model, refer to "**Part Names and Functions (Rear)**". (Page 10)

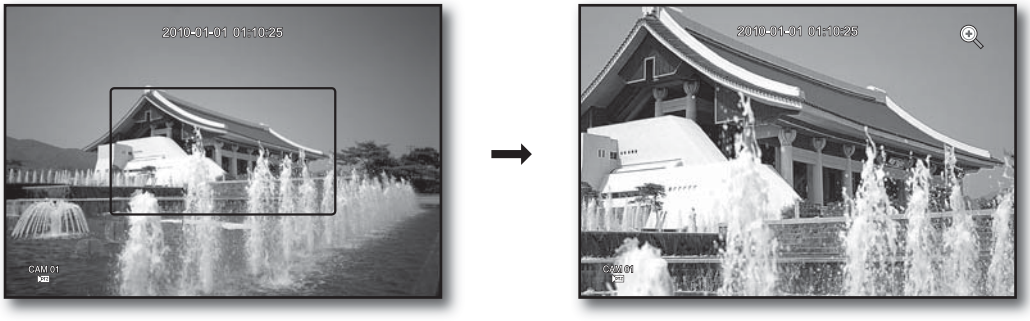


< Multichannel Live Menu >

ZOOM

This is available only in Single Live mode. In Single mode, select a desired area and use the Zoom function to enlarge it twice.

1. Select <**ZOOM**> in the right-click menu.
   Press the [**ZOOM**] button on the front panel or the remote control, or simply click < > in the launcher menu. The zoom box appears.
2. Use the direction keys, or drag and drop to specify an area to enlarge.
3. Press the [**ENTER**] button, or double-click the selected area to enlarge it twice.
   - In the enlarged image, use the direction buttons (▲▼◄ ►) on the remote control or the front panel to move the enlarged area.
4. Press the [**ZOOM**] button on the front panel or the remote control, or simply click < > in the launcher menu to release the zoom.



AUDIO ON/OFF

You can turn the sound on/off corresponding to the channel in Live mode.

AUDIO ON/OFF in Single mode

Click the audio icon ( ) on the screen, or press the [**AUDIO**] button on the front panel or the remote control to turn it on/off.

- Only the channel where <**AUDIO**> is set to <**ON**> in "**Device** > **Camera**" displays the audio icon ( ) in Live mode that you can use to turn the sound on/off.

FREEZE

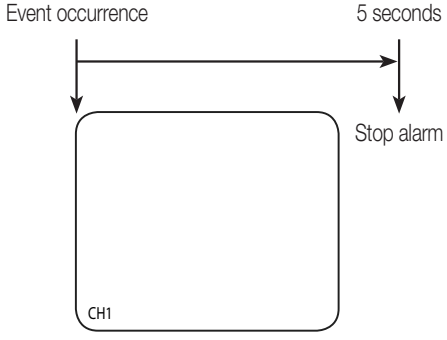
This is available only in Live mode, this pauses playing the Live image temporarily.

1. Press the [**FREEZE**] button on the front panel or the remote control, or click < Freeze > in the launcher menu.
   The playback of the image is stopped temporarily.
2. Press the [**FREEZE**] button again, or click < Freeze >.
   This will release the freeze.

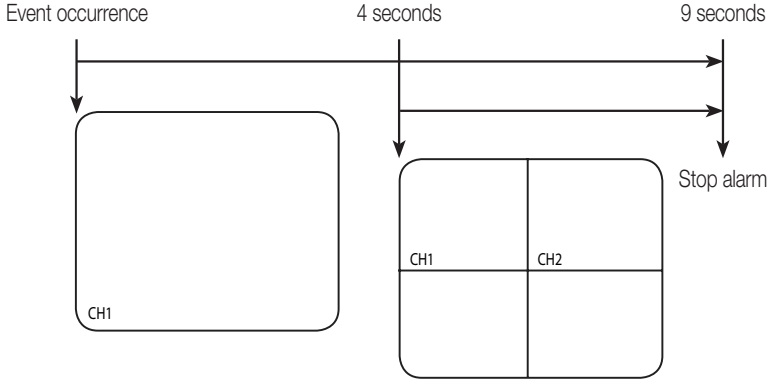
EVENT MONITORING

This will display the channel in sync with a specific event (Sensor/Motion/Video Loss) if it occurs.
In "**Monitor** > **Event Display**", set the event monitoring to ON/OFF and specify the event display time. (Page 50)

- If multiple events occur simultaneously, the screen will switch to a split mode.
  - 2~4 events : 4-split mode
  - 5~9 events : 9-split mode
  - 10~16 events : 16-split mode
- If the second event occurs within the set time of <**Event Display**>, the first event will last until the second one is terminated. (Page 50)
  - Ex : If you set <**Event Display**> to 5 seconds, and only one event occurs in CH 1.



  - Ex : If you set <**Event Display**> to 5 seconds, and the second event occurs in CH 2 within the set time after the first event occurred in CH 1.



- Press the [**ALARM**] button to reset the alarm settings and to release the event mode.
- If an alarm activates in the condition you have set the event record, and pre/post alarm times, the event record will be performed.
- This will also apply to the Spot Out monitor.

using the DVR

You can setup the system properties, devices, and options for recording, event, backup and network.

SYSTEM SETUP

You can setup Date/Time/Language, Permission, System Properties and Log.

Date/Time/Language

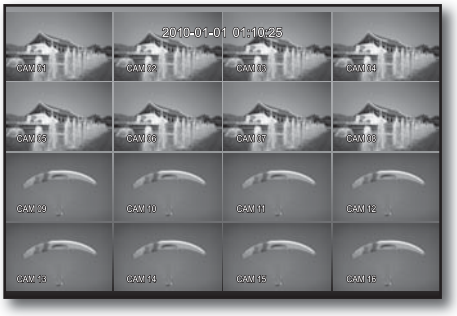
You can check and setup the current Date/Time and time related properties, as well as the language used for the interface on the screen.

Setting the Date/Time/Language

Set the Date/Time/Language

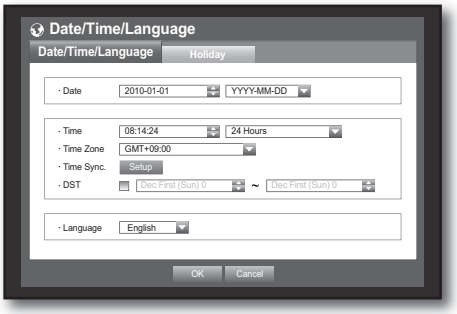
Using the mouse may help make setup easier.

1. Press the [**MENU**] button on the remote control or on the front panel.
   - If not logged in, it prompts with login window. Refer to "**Login**". (Page 24)



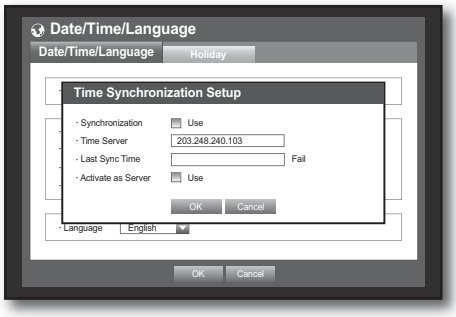
2. Use the left/right buttons (◄ ►) to select the <**System**>. System property setup menu is selected.
3. Use the up/down buttons (▲▼) to select <**Date/Time/Language**> and press the [**ENTER**] button.
4. Select <**Date/Time/Language**>. A dialog to setup Date, Time and Language.
5. Use direction buttons (▲▼◄ ►) to select an item to set and make your changes.

- Date : Sets the date that will appear on the screen. You can select the date format.
- Time : Sets the time and its format that will appear on the screen. Select either one from <**24 Hours, 12 Hours (AM/PM)**>.
- Time Zone : Sets the time zone of your area based on the Greenwich Mean Time (GMT).
  - GMT (Greenwich Mean Time) is standard World Time and the basis of world time zone.



- Time Sync. : You can set the DVR's current time synchronized to a selected <**Time Server**> regularly if you select to use <**Time Server**>. In this case, <**Date/Time/Language**> setup does not allow time adjustment.

- Time Server : Enter an IP or URL address of the time server.
- Last Sync Time : Displays the most recent synchronization time from the selected time server.
- Activate as Server : Set to <**Use**> to allow the DVR to act as a Time Server for other DVRs.



- DST : Set up Daylight Saving Time with its period to make the time earlier than the GMT of its time zone by 1 hour during the set period.
- Language : Select your language. Sets the language for the interface.
  English, French, German, Spanish, Italian, Chinese, Russian, Korean, Polish, Japanese, Dutch, Portuguese, Turkish, Czech, Danish, and Swedish are available.

6. When the Date/Time/Language setup is done, press <**OK**>.

■ You can also use numeric buttons on the remote control or front panel to enter values for Date, Time and other numeric fields.

Setting Holiday

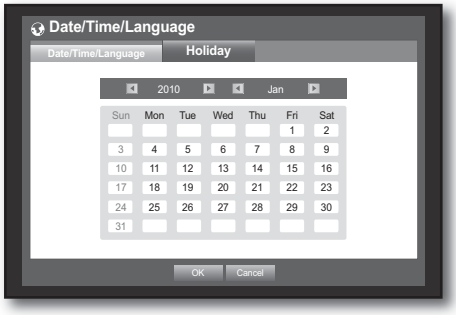
You can set specific dates to Holidays according to your preferences.
Holidays are applied to <**Recording Schedule**> and <**Alarm Schedule**> too.

Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**Date/Time/Language**> window to select <**Date/Time/Language**>, and press the [**ENTER**] button.

4. Select <**Holiday**>.
A calendar for Holiday setup appears.

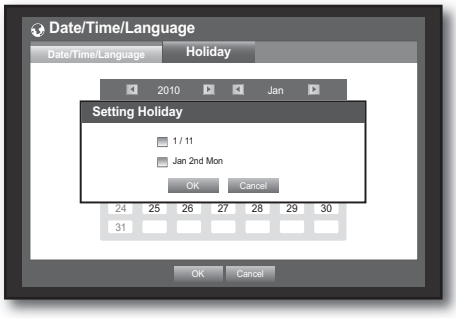
5. Use the left/right <◄ ►> buttons to select year or month, and press the [**ENTER**] button.



6. Use direction buttons (▲▼◄ ►) to select a desired date, and press the [**ENTER**] button.
You will see the "**Setting Holiday**" screen.

■ Ex : Select January 11th and check on <**1/11**> only to make every January 11th a holiday. Check both on <**1/11**> and <**Jan 2nd Mon**> to make every January 11th and 2nd Monday of January holidays.

7. When the Holiday setup is done, press <**OK**>.



Using the Calendar

Using the mouse may help make setup easier.

① Select year and month.
Select the left/right <◄ ►> key on the left/right side of year/month and press [**ENTER**] button to adjust by 1 year/month.

② Use direction buttons to select a date and press [**ENTER**] button.

■ A date with recorded data to be searched will appear in yellow in the System Log, Event Log, Time Search and Event Search.

Permission Management

You can set permissions of each user over the DVR's specific function and settings.

Setting the Administrator

You can set and change Administrator's ID and password.
The administrator can use and set all menu items and functions.

Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**System**> window to move to <**Permission Management**>, and press [**ENTER**] button.

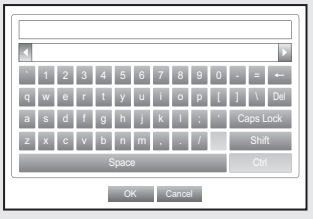
4. Select <**Admin**>.
A dialog for Admin ID and Password input appears.

5. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the ID and password.

- By default, initial ID and password are set to "**admin**", and "**4321**".

6. When the administrator setup is done, press <**OK**>.

Using Virtual Keyboard



① For alphanumeric inputs, the virtual keyboard window appears.

② Use direction buttons (▲▼◄ ►) to move to a desired character, and press the [**ENTER**] button.

③ In the upper text input box of the virtual keyboard, there displays a list of candidate words containing the selected character.

④ Select a word from the list, or use the keyboard to enter the whole word.

- If there are many of candidate words, use < , > buttons to move between them forward and backward.
- You can use mouse wheel and jog shuttle button too.

⑤ Select <**OK**>.
Entered word is applied.

- For upper case letters, use <**Caps Lock**> button.
- For special characters, use <**Shift**> button.
- Using the virtual keyboard is the same to a normal keyboard use in your region.
- You can enter only lower-case alphabets and numeric values for the user ID.
- For the password, use alphabets and special characters excluding < **** > and <**"**>.
- You can use number buttons on the remote control or front panel.

Setting the Group

You can create user groups and setup permissions for those user groups.
You can register a user for each group in <**User**>.

Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**System**> window to move to <**Permission Management**>, and press [**ENTER**] button.

4. Select <**Group**>.
A window for <**Add**>, <**Delete**>, <**Rename**>, and <**Group Authority**> setup appears.

5. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.

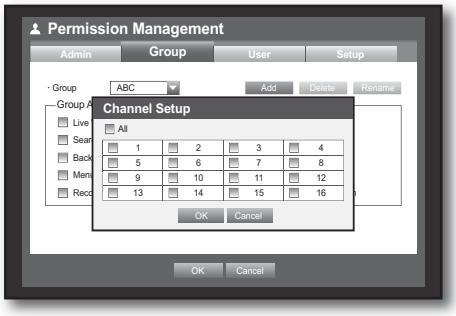
- Add, Delete, Rename : You can add, delete, rename a group or modify the permissions given to the group.
  The virtual keyboard appears when <**Add**> or <**Rename**> was selected.
  You can add up to 10 groups.
  - Add : When you first run the DVR with the admin account, only the admin account exists. Add has already been deactivated. Select to display the virtual keyboard. Enter a group name. You can add up to 10 groups.
  - Delete : Deletes a user group that is already registered. Selecting Delete will delete all user accounts belonging to that group.
  - Rename : Renames a group that is already registered. Select <**Rename**> to display the virtual keyboard.
    - For entering a group name, refer to "**Using Virtual Keyboard**". (Page 36)
- Group Authority : Sets permissions to access menu items of each group.
  Users of a group can access checked functions.

6. When the group setup is done, press <**OK**>.

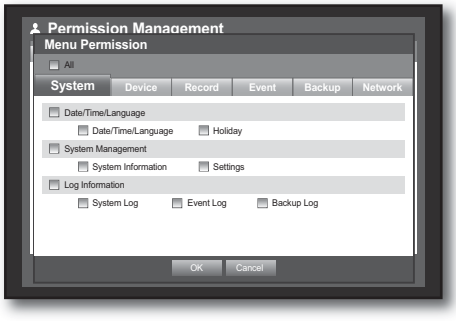
To set the group authority

You can set the permissions of the group users to access the menu according to the channel.

1. Select a menu to which the group permission is assigned.
The menu where the group permission is assigned will be displayed in the Live menu when a group user logs in.



- Live View : You can set the permission to access the Live screen according to the channel.
- Search : You can set the permission to access the Search menu according to the channel.
- Backup : You can set the permission to access the Backup menu according to the channel.
- Menu : You can set menus accessible with a specific permission.
  Group users can access the permitted menus only.
  Select a menu to display the Menu Permission screen.
- Record Lock, PTZ, Remote Alarm Out, Shutdown : Select an item so that the item will be added to the permissions.



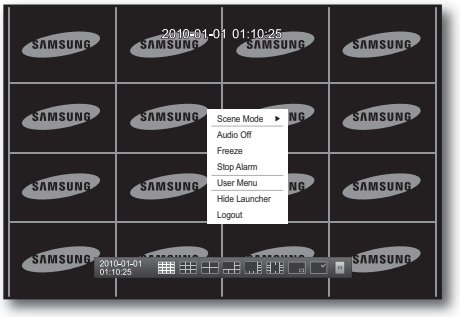
2. Select <**OK**>.
Select and assign a group user so that the user can access the specified menu.

To restrict the user permissions

If the admin restricts all permissions of an added group, the users belonging to that group can access only the default minimum menus and can change the user's own password only.

1. Start the DVR.
   If all permissions are restricted, only the Login dialog should appear.
2. Log in with a registered user ID.

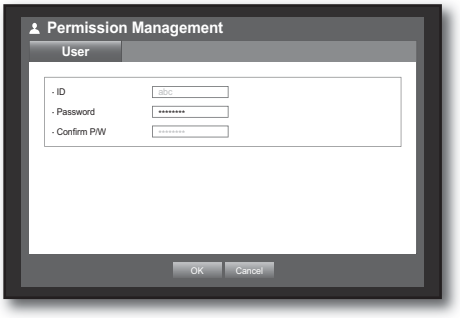
3. Right-click any area on the screen.
   If all permissions are restricted, only the accessible context menus should appear.



To change the user password

If you log in with a user account that is restricted to access the menu, you can change your own password only.

1. Log in with your account.
2. Select <**User Menu**>.
   The Permission Management setup screen appears.
3. Select <**Permission Management**>.
   The Password setup dialog appears.
4. Enter a new password.
5. Select <**OK**>.
   You change to the password will be applied.



Setting the User

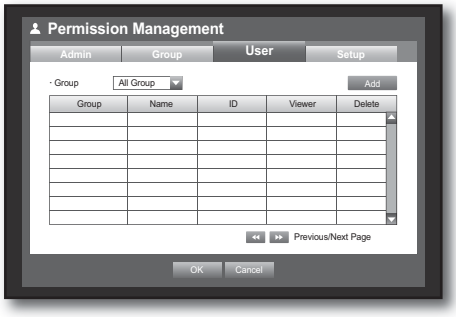
Users can be added only if a group was created in <**Group**> menu.

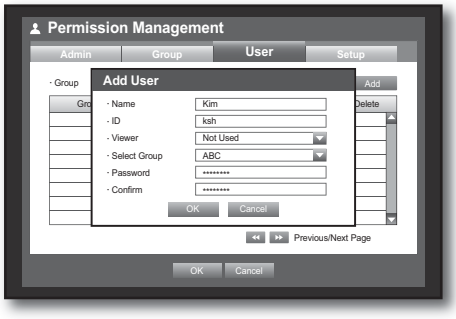
Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**System**> window to move to <**Permission Management**>, and press [**ENTER**] button.

4. Select <**User**>.
A window for Add User appears.

5. Use direction buttons (▲▼◄ ►) to select <**Add**> from the window.
A window for "**Add User**" appears.
You can configure the Network Viewer settings including name, ID, viewer, Select Group and password.
Result of the user setup appears in the <**User**> window.
To change the user property, use "**Edit User**".
The "**Edit User**" window appears when you select a desired item to be changed in the <**User**> window.





- Viewer : If you select <**Use**>, you will be given access to the Web Viewer and Network Viewer.
  - Refer to "**Connecting Web Viewer**". (Page 74)
  - For more information about use of Network Viewer, refer to the Network Viewer's user guide. (Page 5)

6. When the user setup is done, press <**OK**>.

Setting Permissions

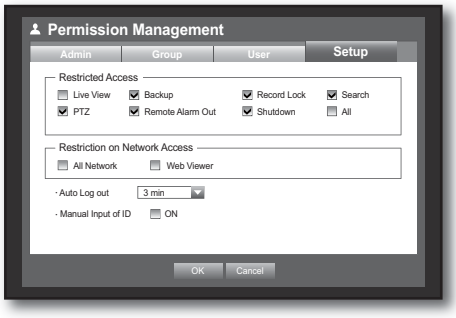
You can set restricted access for all general users.
Items with restrictions will require logging in for use.

Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**System**> window to move to <**Permission Management**>, and press [**ENTER**] button.

4. Select <**Setup**>.
The Restricted Access, Restriction on Network Access, Auto Log out, Manual Input of ID setup screen appear.

5. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.



- Restricted Access : All menu items allowed for a user can be set with restricted access.
  - Checked (☑) : Restricted
  - Not checked (☐) : Accessible
  - If it is not checked (☐) in <**Restricted Access**>, any user can access the item no matter what the <**Group Authority**> setting.
  - If it is checked (☑) in <**Restricted Access**>, a user can access the item only if the user has permission in <**Group Authority**> setting.
- Restriction on Network Access : Restricts remote access from a <**Restricted Access**> network.
  - All Network : Restricts all access instances via Network Viewer and Web Viewer.
  - Web Viewer : Restricts access via the Web Viewer.
- Auto Log out : A user will be automatically logged out if there is no operation on DVR for over set period of time.

- Manual Input of ID : Prompts you to enter the user ID manually for the login process.
  - Checked (☑) : Encloses the registered user IDs with the [∗] symbols.
    Use the virtual keyboard to enter the user ID.

6. When the permission setup is done, press <**OK**>.

System Management

You can check the system version, update to a newer version, as well as data backup and initialization.

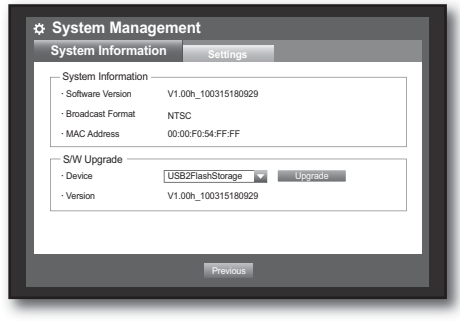
Checking the System Information

You can check the current system version, broadcasting system, MAC address. You can update the system.
Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**System**> window to move to <**System Management**>, and press [**ENTER**] button.

4. Check the Version, Broadcast Format, and MAC Address.

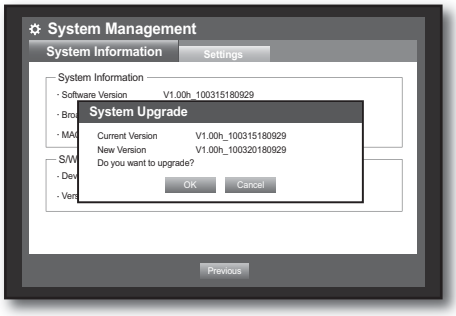
- System Information : Shows the current system's information.
  The values can not be changed by a user.
- S/W Upgrade : Updates the DVR's software up to date.



• **Updating the Software**

1. Connect a device storing the software to be updated. (It may take about 10 seconds to recognize the device.)

- Upgradeable devices include USB memory, CD/DVD and network device.
- To update the network, the current DVR should have been connected to the network.
  Upgrade via the proxy server may not be enabled due to the restricted access.



2. Select <**System Management**> from <**System**> window.

3. Select <**System Information**>.

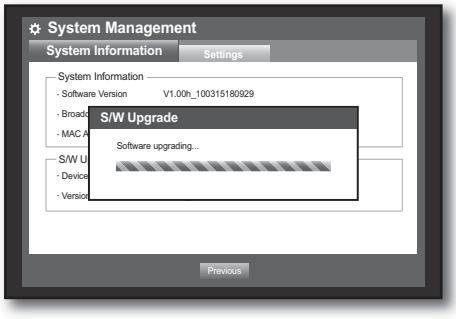
4. When the recognized device appears, select <**Upgrade**>.

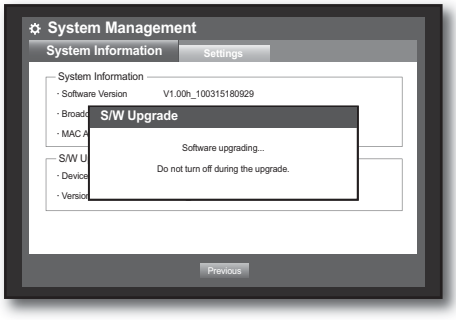
- The <**Upgrade**> button will be activated only if the current <**Software Version**> of the <**System Information**> is same to or older than that of <**S/W Upgrade**>.

5. Press <**OK**> in the "**System Upgrade**" window.

- While updating, it shows the progress.

• Updating progresses with 3 steps as shown in the figure.





6. When the updating is done, it automatically restarts. Do not turn the power off until it finishes restarting.

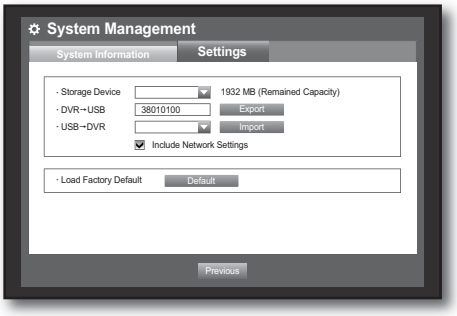
- If "**Upgrade Failed**" appears, retry from the step 4. When you experience continued failure, consult the service center for assistance.

Settings

You can copy and import the DVR settings by using a storage media.

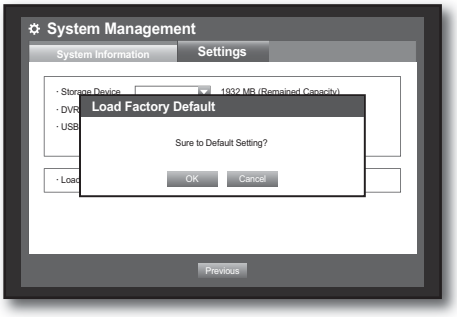
Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**System**> window to move to <**System Management**>, and press [**ENTER**] button.
4. Select <**Settings**>.
   A window of storage device and load factory default appears.
5. Use direction buttons (▲▼◄ ►) to move to a desired item, and export or import settings data to a storage device.



- Storage Device : Shows the connected storage device.
- Export : Exports DVR settings to the connected storage device.
- Import : Imports DVR settings from the storage device and applies to the DVR.
  - If <**Include Network Settings**> is checked, the network settings will be imported too.
- Load Factory Default : If <**Default**> is selected, a confirmation dialog for "**Load Factory Default**" prompts. Press <**OK**> to initialize the system to the factory default.

6. To move to the previous menu, press <**Previous**>.



Log Information

You can browse logs on the system and events.

System Log

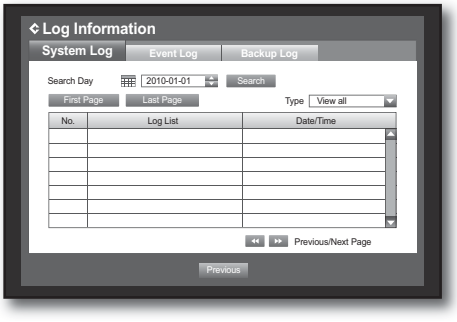
System Log shows log and timestamp on every system start up, system shutdown, and changes on system settings.

Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**System**> window to move to <**Log Information**>, and press [**ENTER**] button.
4. Select <**System Log**>.
   - Refer to "**Using the Calendar**". (Page 35)
     Click on the calendar <▦> to display the calendar window.

- Type : When there are too many logs, you can display logs of the desired format by selecting the type.

5. Use direction buttons (▲▼◄ ►) to move to a desired item, and press <**Search**>.



Event Log

Event log shows recorded events on alarms, motion detections and video loss.
It also shows the log and its timestamp.

Using the mouse may help make setup easier.

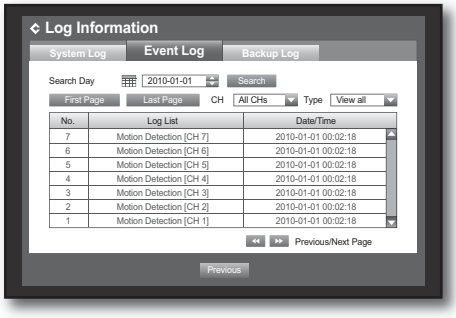
3. Use the up/down buttons (▲▼) in <**System**> window to move to <**Log Information**>, and press [**ENTER**] button.

4. Select <**Event Log**>.

5. Use direction buttons (▲▼◄ ►) to move to the desired item.

6. Set Search Day, Channel and Type and the press <**Search**>.

- Refer to "**Using the Calendar**". (Page 35)
  Click on the calendar <▦> to display the calendar window.



Backup Log

You can find out who backed up and the details (backup time, channel, device to use, file format, etc.).

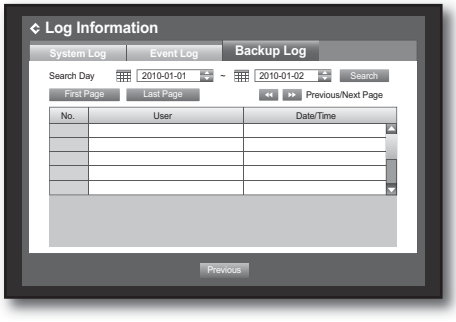
Using the mouse may help make setup easier.

3. In the <**System**> window, press the up/down (▲▼) button to move to <**Log Information**> and press the [**ENTER**] button.

4. Select <**Backup Log**>.

5. Use the four direction buttons (▲▼◄ ►) to move to a desired item.

6. Specify a search term and select <**Search**> in the right corner.
Backup details for the search term will be listed.



SETTING THE DEVICE

You can setup Camera, Storage Device, Remote Device, POS Device and Monitor.

Camera

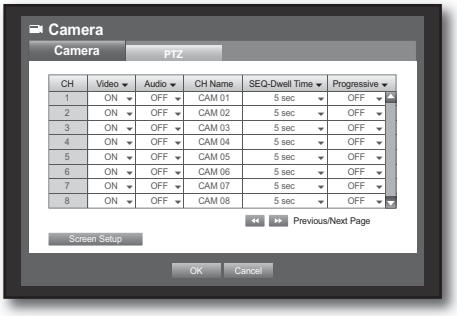
Setting the Camera

You can set Video, Audio, Channel Name and Dwell Time of a Camera.

Using the mouse may help make setup easier.

1. Press the [**MENU**] button on the remote control or front panel.
2. Use the left/right button (◄ ►) to select <**Device**>. Device setting menu is selected.
3. Use the up/down buttons (▲▼) to move to <**Camera**>, and press [**ENTER**] button.

4. Select <**Camera**>.
   You will see a window where you can configure the camera settings including Video, Audio, Channel Name, Dwell Time and Progressive.
5. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.



- Video
  - <**ON/OFF**> : You can turn ON/OFF the selected channel's camera.
  - <**Covert1**> : Shows information other than the video of the selected channel.
    - For privacy protection, it does not display the video while the recording continues.
  - <**Covert2**> : Shows nothing but an empty screen while the recording continues.

- No signal will be output from channels that are set to <**Covert1**> or <**Covert2**> for the video. However, audio recording will be performed for a channel whose audio is set to <**ON**> even if no audio signal is output from the Live screen.

- Audio
  - If set to <**ON**>, you can turn the audio of the channel ON/OFF on the Live screen.
  - If set to <**OFF**>, the channel's audio is off on the Live screen and not recorded.
    - Audio output is available for only 1 channel.

- SRD-830DC/1610DC/1630DC supports 1~4 channels of sound inputs.

- CH Name : Up to 15 characters including blanks are allowed.
  - Refer to "**Using Virtual Keyboard**". (Page 36)
- SEQ-Dwell Time : You can set the dwell time between channels for the Live screen and Spot Out.
  - If set to <**OFF**>, the channel is not listed in the Auto Sequence mode.
- Progressive : You can set the progressive camera to ON/OFF.

  - If you set it to <**ON**> for the progressive camera, screen flickering will be reduced.
- Screen Setup : The video appeared on the screen may vary depending on the channel's camera, configure the DVR display to your preferences.
  Select a channel and adjust the <**(Brightness)**>, <**(Contrast)**>, and <**(Color)**> of the selected channel.
- Press the <**Init**> to initialize settings back to the default 50.

6. When the camera setup is done, press <**OK**>.

Setting the PTZ

If you want to enable the PTZ functions of a camera from the DVR, you should match the Port, ID and protocol between each applicable camera and DVR.
For other settings, refer to the "**Remote Devices**" settings. (Page 48)

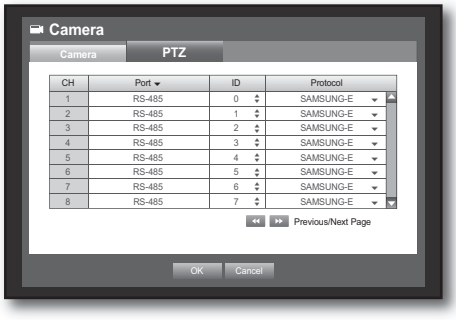
Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**Device**> window to move to <**Camera**>, and press [**ENTER**] button.

4. Select <**PTZ**>.
A window of PTZ settings appears.

5. Use direction buttons (▲▼◄ ►) to move to a desired item, and select it.

- Port : Select a port control method for the camera that is connected to a channel.
  - You have two choices : <**RS-485**> and <**Coaxial**>.



- ID : Set the ID of the connected camera of each channel.
  You can easily setup by using the numeric buttons on the remote control or front panel.
- Protocol : Set the protocol of the connected camera of each channel.

  - You can check the camera's ID and protocol if you turn the camera off and on after connecting it to the DVR. (Page 67)
  - For the <**Coaxial**> type, CCVC and PELCO-C protocols are supported.

6. When the PTZ setup is done, press <**OK**>.

Storage Device

You can check information on storage devices.

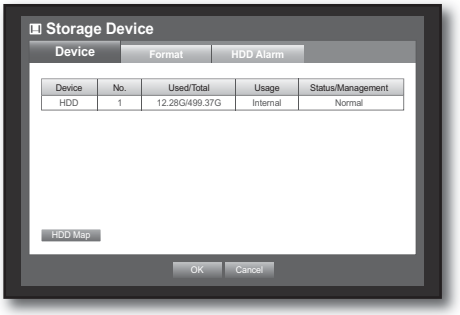
Confirming Devices

You can check storage devices and their free space, usage as well as status.
Devices available are HDD, and USB devices (Memory, HDD, CD/DVD).
Refer to "**Product Specifications** > **Backup**". (Page 98)

Using the mouse may help make setup easier.

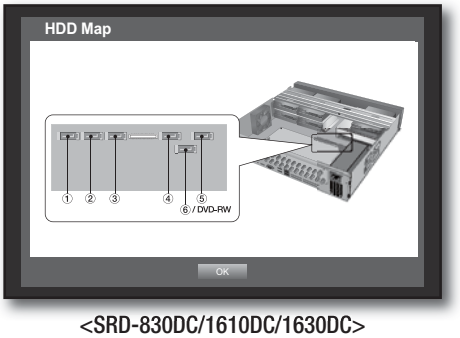
3. Use the up/down buttons (▲▼) in <**Device**> window to move to <**Storage Device**>, and press [**ENTER**] button.

4. Select <**Device**>.

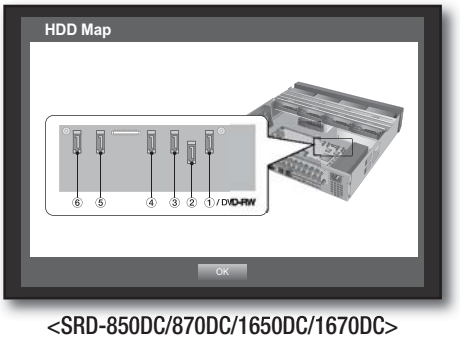


- No. : Shows the assigned number of the internal HDD.
  - To see the detailed positioning of the HDD according to the number, refer to <**HDD Map**>.
- Used/Total : Shows the used/total capacity of the storage device.
- Usage : Sets the storage device's usage.
  - USB memory is used only for backups.
  - External USB HDD, SATA HDD are used for extension and backup.
  - SRD-830DC/1610DC/1630DC does not support a port for SATA connection.
- Status/Management : Shows the current status of the HDD, as in Normal/Check/Replace.
  - Normal : Available to use
  - Check : Available to use but recommended to replace
  - Replace : Requires immediate replacement.
- HDD Map : Shows the internal HDD's locations according to assigned numbers.
  - Refer to this for servicing or additional HDD installation.

5. To move to the previous menu, press <**OK**>.



<SRD-830DC/1610DC/1630DC>



<SRD-850DC/870DC/1650DC/1670DC>

Formatting

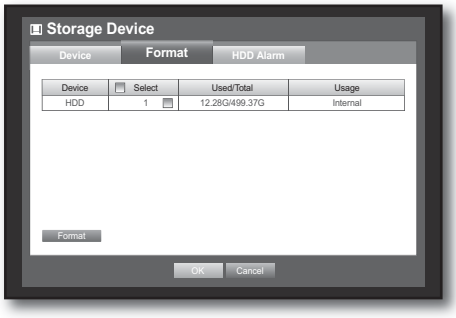
You can format a storage device.

Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**Device**> window to move to <**Storage Device**>, and press [**ENTER**] button.

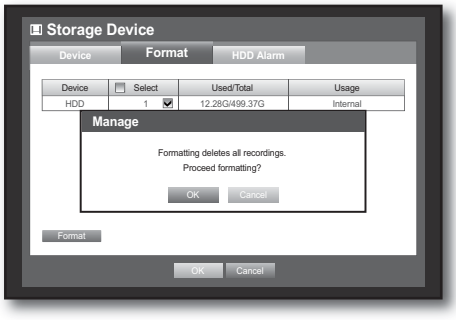
4. Select <**Format**>.
A window for selection of device for formatting appears.

5. Use direction buttons (▲▼◄ ►) to select a device to be formatted.



6. Select <**Format**> on the bottom of the screen.
Press <**OK**> on the "**Manage**" confirmation window will start formatting the selected device.

7. When the formatting is done, press <**OK**>.



HDD Alarm

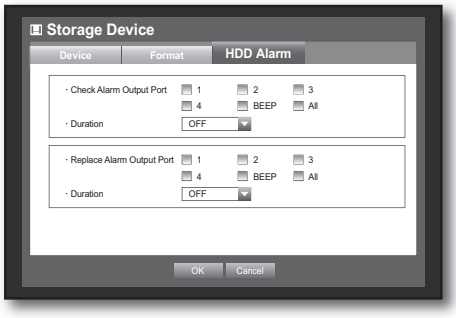
You can set alarm settings for HDD defects such as Check Alarm Output Port, Replace Alarm Output Port, and its duration.

Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**Device**> window to move to <**Storage Device**>, and press [**ENTER**] button.

4. Select <**HDD Alarm**>.
A window for setting HDD check and replace output ports and their durations appears.

5. Use direction buttons (▲▼◄ ►) to move to the desired item.



- Alarm
  - Alarm signal will output through the alarm out port on the rear side when selected <**1**>, <**2**>, <**3**>, and <**4**>.
  - If <**BEEP**> was selected, a beep will sound.
  - If <**All**> was selected, both beep sound and alarm signal through rear side ports will output.
- Check Alarm Output Port : If HDD generates check alarm, the alarm signal will output to the specified alarm output port.
- Replace Alarm Output Port : If HDD generates replace alarm, the alarm signal will output to the specified alarm output port.

- Duration : Sets the alarm duration for the alarm signal and beep sound.
  - Check Alarm, Replace Alarm signals will output through the selected alarm out ports (1, 2, 3, and 4).
  - If <**BEEP**> was selected, a beep will sound.
  - If <**All**> was selected, both beep sound and alarm signal through rear side ports will output.

▪ <**Check**> status means that the HDD is operating but it has problems that require technical examination. ( ) appears on the Live screen.

▪ <**Replace**> status means that the HDD has defect and requires immediate replacement. ( ) appears on the Live screen.

6. When the HDD Alarm setup is done, press <**OK**>.

Remote Devices

You can set the RS-485 communication for use of PTZ Camera and system keyboard with the DVR.

Using the mouse may help make setup easier.

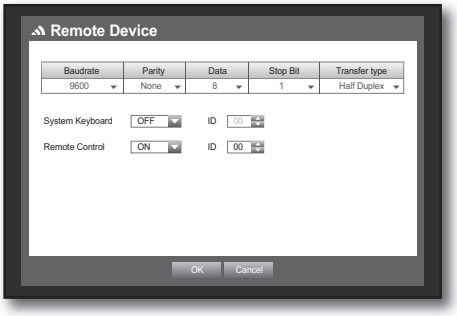
3. Use the up/down buttons (▲▼) in <**Device**> window to move to <**Remote Device**>, and press [**ENTER**] button.

4. Use direction buttons (▲▼◄ ►) to move to the desired item, and press [**ENTER**] button.

5. Set the values of each communication setup of the remote device.

- Baudrate : Baud rate settings of the DVR, PTZ camera and system keyboard should be matched for proper operations.

6. Make sure to match IDs of the DVR, System Keyboard and Remote Control, and press <**OK**>.



▪ For changing the remote control's ID, refer to "**Changing the Remote Control ID**". (Page 13)

POS Devices

You can set properties of POS devices connected to the DVR.
A POS device connection requires channel, preset, and Port/Ethernet settings.

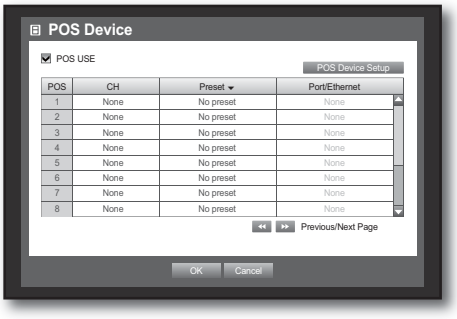
Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**Device**> window to move to <**POS Device**>, and press [**ENTER**] button.

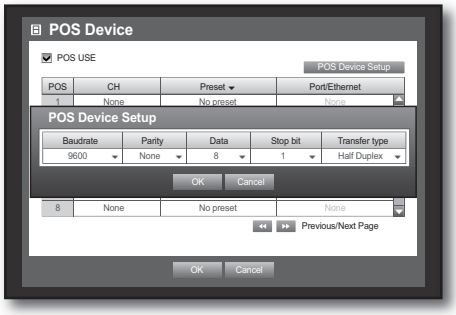
4. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.

- POS USE : When selected <**POS USE**>, DVR and POS will be connected.

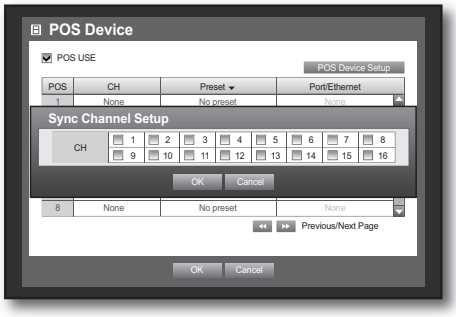
▪ If you change settings for the device and press <**OK**> while the <**POS USE**> is not checked, the changes for POS device will not be saved.



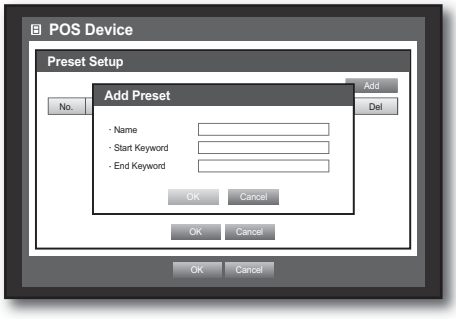
- POS Device Setup : Sets the communication setups for the POS device and DVR.
  - It is independent to the Remote Device setup.



- CH : Select the camera to be synchronized to the POS device.
  - If selected a channel input field, "**Sync Channel Setup**" window appears.
  - One POS device can be synchronized to up to 16 cameras (channels), however one channel cannot be synchronized to multiple POS devices.
  - Channels to be synchronized to a POS device should be set to "**Event**" in "**Main Menu** > **Record** > **Recording Schedule**". (Page 52)



- Preset : Sets the name, start and end strings of the receipt for the preset.
  - Preset name should be unique.
  - Use <**Add**> button to display "**Add Preset**" window, and set its name, start string, and end string.



- Port/Ethernet : Sets the port number for the DVR and POS device connection.
  - COM1 : For RS-232C connections
  - 7001~7016 : For Ethernet connections

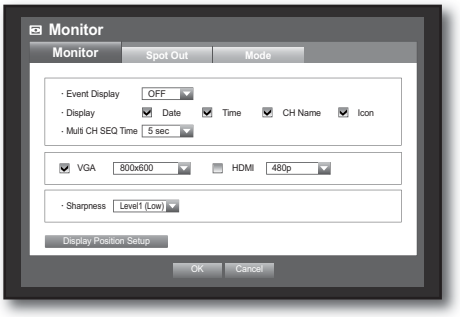
5. When the POS Device setup is done, press <**OK**>.

Monitor

You can configure information to be displayed and its format for Spot Out monitor.

Setting the Monitor

Using the mouse may help make setup easier.



3. Use the up/down buttons (▲▼) in <**Device**> window to move to <**Monitor**>, and press [**ENTER**] button.
4. Select <**Monitor**>.
5. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.

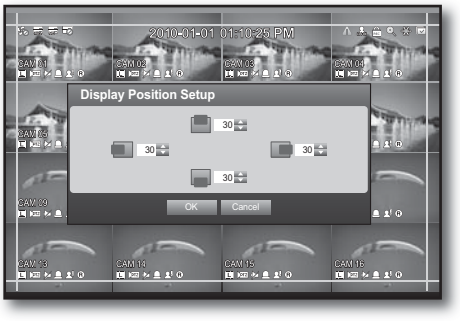
- Event Display : Sets the dwell time of the event channel display on the monitor when an event occurs.
  If selected <**Continuous**>, it displays the channel until you press [**ALARM**] button to release it.
- Display : Displays only checked items on the monitor screen.
- Multi CH SEQ Time : Sets the interval between automatic display switching in 4-split and 9-split mode of the Live screen.
- VGA, HDMI : Select between <**VGA**> and <**HDMI**> for screen output.
  Outputs either one of <**VGA**> and <**HDMI**>.
  If the output setting of <**VGA**> or <**HDMI**> does not match to the monitor, video may not be produced.
  In this case, press and hold the [**MODE**] and [**ZOOM**] buttons simultaneously for around 5 seconds to change the video output.
  - SRD-830DC/1610DC/1630DC does not support the HDMI signal.
- Sharpness : You can adjust the sharpness of the video output signal.

6. When the monitor setup is done, press <**OK**>.

Screen Setup

Some monitors many not display information (camera name, icon, time information, etc.) about the DVR, depending on the condition. Then, you can change the display position of the data.

3. In the <**Device**> window, press the up/down (▲▼) button to move to <**Monitor**> and press the [**ENTER**] button.
4. Select the <**Monitor**> item.
5. Select <**Display Position Setup**> in the bottom.
   You will move to the <**Display Position Setup**> window.
6. Use the four direction buttons or the number buttons on the front panel or the remote control to adjust the data position.



Setting the Spot Out

You can set the DVR to output information / video apart from the monitor out.

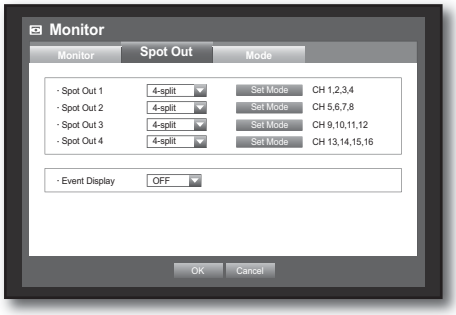
Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**Device**> window to move to <**Monitor**>, and press [**ENTER**] button.

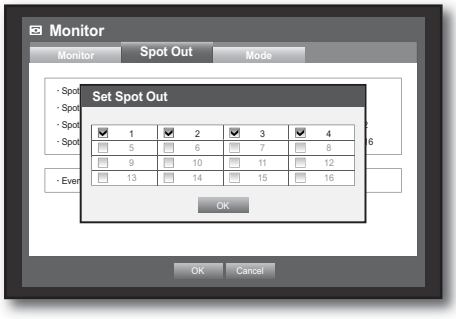
4. Select <**Spot Out**>.

- The number of Spot Out terminals differs according to the model.

5. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.



- Spot Out 1 : You can select between 16-, 9-, 4-split, Auto Sequence, and Single.
- Spot Out 2~4 : Only supports 4 channels, with 4-split, Auto Sequence, and Single mode.
- Set Mode : A window for "**Set Spot Out**" appears and you can set the channel for it.
  You can set the dwell time between the screen switching in "**Setting the Device** > **Camera** > **SEQ-Dwell Time**". (Page 44)
- Event Display : Sets the duration for the Spot Out on an event.
  If selected <**OFF**>, an event will not output to the Spot Out.



- You can setup using the mouse right button in Live screen. Refer to "**Spot Out**". (Page 31)

6. When the Spot Out is done, press <**OK**>.

Setting the Screen Mode

You can configure the Live screen and Split Screens.

Using the mouse may help make setup easier.

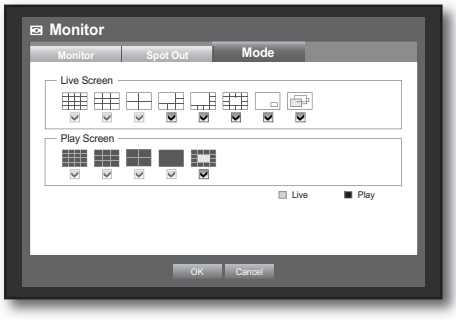
3. Use the up/down buttons (▲▼) in <**Device**> window to move to <**Monitor**>, and press [**ENTER**] button.

4. Select <**Mode**>.

5. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.

- Live Screen : Select split modes for the Live screen. 16-, 9-, and 4-split screens are included by default.
- Play Screen : Select split modes for the playback screen. Only the 13-split screen is optional.
  Black shows the playback while white shows the Live screen.

6. When the screen mode setup is done, press <**OK**>.



SETTING THE RECORDING

You can setup scheduled recording, event recording and other recording related settings.

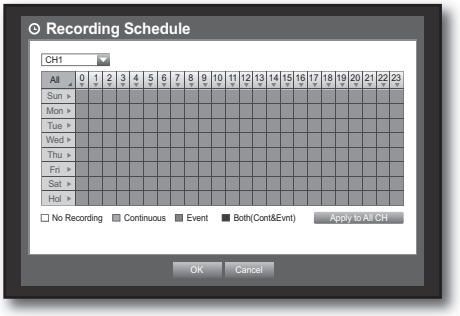
Recording Schedule

Make your reservation on a date and time to schedule the recording on specified time.

Using the mouse may help make setup easier.

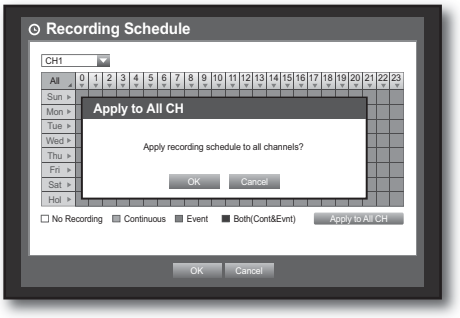
1. Press the [**MENU**] button on the remote control or front panel.
2. Use the left/right button (◄ ►) to select <**Record**>. Record menu is selected.
3. Use the up/down buttons (▲▼) to move to <**Recording Schedule**>, and press [**ENTER**] button.

4. Select <**Recording Schedule**>. A window of scheduled recording setup appears.
5. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.



- Apply to All CH : If selected <**Apply to All CH**>, "**Apply to All CH**" window appears. Press <**OK**> to apply the setup to all channels.

6. When the recording schedule setup is done, press <**OK**>.



- Event recording and scheduled recording starts about 3 seconds prior to the event/schedule for guaranteed recording.

Recording Color Tags

Color	Function	Description
White	No Recording	No schedule / event recording
Orange	Continuous	Scheduled recording only
Blue	Event	Event recording only
Green	Both(Cont&Evnt)	Both scheduled / event recordings

Each press of a selected cell will cycle through <**No Recording**>-<**Continuous**>-<**Event**>-<**Both(Cont&Evnt)**>.

Event Record Duration

You can set the beginning and ending point of a recording on an event.

Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**Record**> window to move to <**Event Record Duration**>, and press [**ENTER**] button.

4. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.

- Pre Event : The recording of an event will start at a pre-determined time prior to the actual occurrence of the event. If it is set to 5 seconds, the recording begins from 5 seconds before the event.
- POST Event : The recording will continue for a pre-determined time after the actual end of an event. If it is set to 5 seconds, the recording ends in 5 seconds after an event.

5. When the event recording duration setup is done, press <**OK**>.

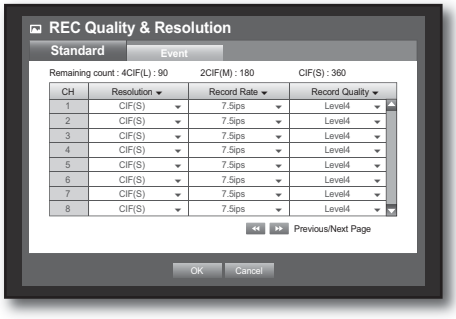
REC Quality / Resolution

You can set resolution, IPS, and quality of recordings by channel, and by recording type of standard / event.

Setting Standard Recording Properties

You can set each channel's resolution, quality and IPS for normal recordings.

Using the mouse may help make setup easier.



3. Use the up/down buttons (▲▼) in <**Record**> window to move to <**REC Quality & Resolution**>, and press [**ENTER**] button.

4. Select <**Standard**>.

5. When the recording setup is done, press <**OK**>.

- Remaining count : If you change the settings of the resolution and the remaining rate, the frame rate available for each resolution will be recalculated.
  - The <**Remaining count**> will be displayed only for SRD-830DC/850DC/1610DC/1630DC/1650DC models.
  - SRD-870DC/1670DC models have no limitations on the remaining rate.

Setting Event Recording Properties

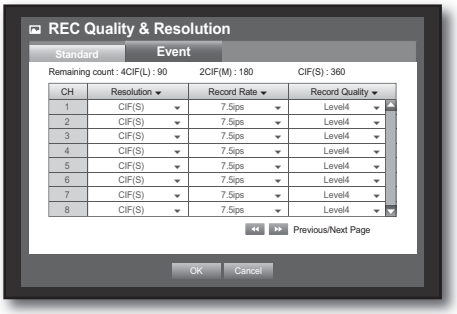
You can set each channel's resolution, quality and IPS for event recordings.

Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**Record**> window to move to <**REC Quality & Resolution**>, and press [**ENTER**] button.

4. Select <**Event**>.
Event recording setup window appears.

5. Use direction buttons (▲▼◄ ►) to move to a desired item, and select it.



- Resolution : Sets the resolution of the recorded screen.
  - If you set the resolution to <**4CIF(L)**>, SRD-850DC/1650DC support up to 4 channels while SRD-1630DC support up to 2 channels and SRD-830DC/1610DC support just one channel.

Resolution

Name	Resolution	Description
CIF(S)	NTSC: 352 X 240, PAL: 352 X 288	Samples each half of horizontal and vertical screen.
2CIF(M)	NTSC: 704 X 240, PAL: 704 X 288	Samples half of the horizontal screen.
4CIF(L)	NTSC: 704 X 480, PAL: 704 X 576	Samples original screen size.

- Record Rate : Image Per Second, means the frames recorded per a second.
- Record Quality : Sets the recording quality.

- The estimated total remaining count for SRD-830DC/850DC/1610DC/1630DC/1650DC means the total number of remaining recordings for both standard and event recordings.
- You cannot increase the remaining count if the current remaining count has reached zero or there is no available remaining count from any other page. If this is the case, reduce the remaining count for the current page, or do so for the same channel on any other page.

6. When the Event recording setup is done, press <**OK**>.

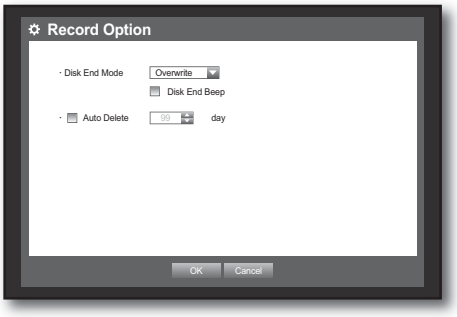
Record Option

You can set the recording to stop or overwrite when the HDD is full.

Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**Record**> window to move to <**Record Option**>, and press [**ENTER**] button.

4. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.



- Disk End Mode : If selected <**Overwrite**>, recording will continue despite the HDD full while overwriting the oldest.
  If selected <**Stop**>, the recording will stop when the HDD is full.
- Disk End Beep : If selected <**Stop**>, the button is activated.
  If you check it, the beep will sound on the disk full and the recording stops.
- Auto Delete : If you check it, Record Period setup is activated.
  If you setup the auto delete, recorded data only in the configured period are searchable.

5. When the recording option setup is done, press <**OK**>.

SETTING THE EVENT

You can set recording options for sensor, motion, and video loss event.

Sensor Detection

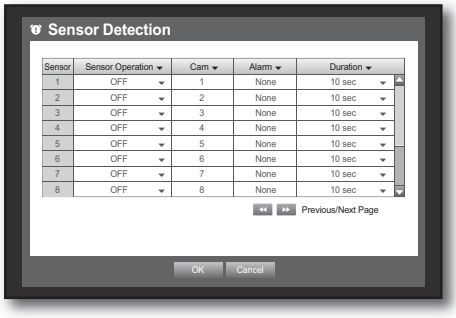
You can set the sensor's operating condition and connected camera, as well as alarm output and its duration.
Using the mouse may help make setup easier.

1. Press the [**MENU**] button on the remote control or front panel.

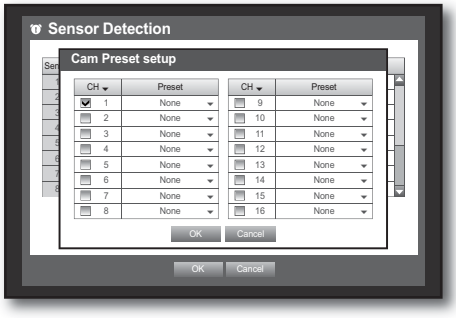
2. Use the left/right button (◄ ►) to select <**Event**>.
Event setting menu is selected.

3. Use the up/down buttons (▲▼) to move to <**Sensor Detection**>, and press [**ENTER**] button.
A window of sensor detection setup appears.

4. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.

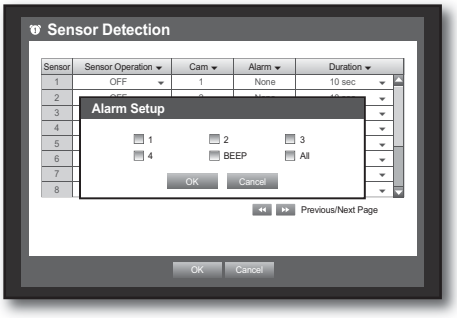


- Sensor Operation : Sets the operation mode of sensors.
  - <**OFF**> : Sensor does not operate.
  - <**N.O (Normal Open)**> : Sensor is opened.
    If the sensor is closed, it generates alarm.
  - <**N.C (Normal Close)**> : Sensor is closed.
    If the sensor is open by interruption, it generates alarm.
- Cam : Select a channel to be connected to the sensor.
  If selected camera, "**Cam Preset setup**" window appears.
  Select a channel and setup the preset.
  - Preset setup can be done in PTZ mode.



- Alarm : Sets the alarm output method.
  - For further information on alarm output, refer to "**HDD Alarm** > **Alarm**". (Page 47)
- Duration : Sets the duration of alarm signal and alarm sound.

5. When the sensor detection setup is done, press <**OK**>.



Motion Detection

You can set target detection region and motion, as well as the alarm signal output.
When the motion detection region is set, it detects motion within the area.

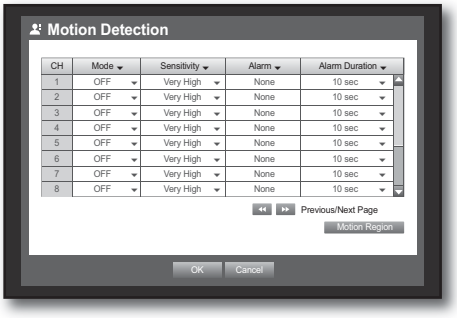
Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**Event**> window to move to <**Motion Detection**>, and press [**ENTER**] button. A window of motion detection area setup appears.

4. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.

- Mode : Sets whether to activate motion detection.
- Sensitivity : Sets the sensitivity level of the motion detection.
- Alarm : Sets the alarm output method.
  - For further information on alarm output, refer to "**HDD Alarm** > **Alarm**". (Page 47)
- Alarm Duration : Sets the duration of alarm signal and alarm sound.

5. When the motion detection setup is done, press <**OK**>.



Setting the Motion Detection Area

① Select <**Motion Region**>.
② When "**Motion Region**" window appears, select a channel for detection and set the area of motion detection.

- To set the area in "**Motion Region**" window

In the "**Motion Region**" window, select desired region from <▀ ▀ ▀ ▀ ▀ □>.

- To set the area using <**Individual**> selection

In the "**Motion Region**" window, you can select cells individually by using <**Individual**>.

When selected <**Individual**>, "**Motion Region**" window disappears and you can select cells one by one.
When the motion area setup is done, press the <**Menu**> on the screen or the [**MENU**] button on the remote control or front panel to display the "**Motion Region**" window again.

- Select : Selected cell is set to be a part of motion detection area.
- Unselect : Selected cell is removed from the motion detection area.
- Inverse : Unselected cells are set to be the motion detection area.
- Menu : After selecting individual motion areas, move to the "**Motion Region**" window.
  - If selected <**Apply to All CH**>, selected motion area is applied to all channels.

③ When the motion detection setup is done, press <**OK**>.

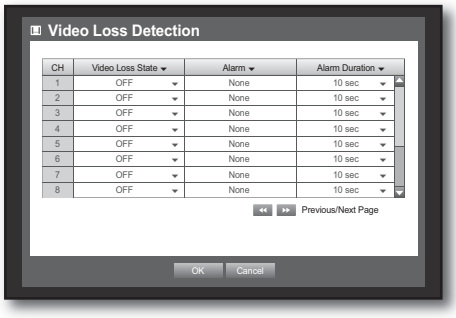
Video Loss Detection

You can set the alarm to be generated on a camera disconnection, which causes a video loss.

Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**Event**> window to move to <**Video Loss Detection**>, and press [**ENTER**] button.
A window of video loss detection area setup appears.

4. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.



- Video Loss State : Sets whether to activate video loss detection.
- Alarm : Sets the alarm output method.
  - For further information on alarm output, refer to "**HDD Alarm** > **Alarm**". (Page 47)
- Alarm Duration : Sets the duration of alarm signal and alarm sound.

5. When the video loss detection setup is done, press <**OK**>.

Alarm Schedule

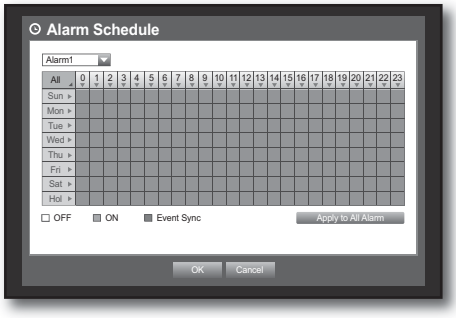
You can set the conditions and operating hours for scheduled alarms.

Using the mouse may help make setup easier.

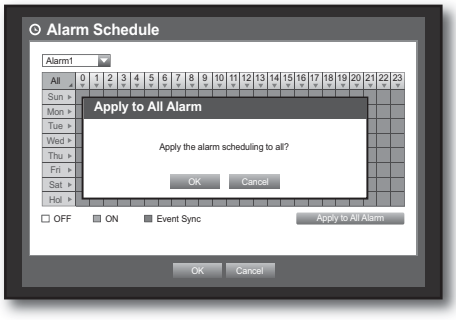
3. Use the up/down buttons (▲▼) in <**Event**> window to move to <**Alarm Schedule**>, and press [**ENTER**] button.

4. A window of <**Alarm Schedule**> settings appears.

5. Alarm : Sets the alarm output method.
  - For further information on alarm output, refer to "**HDD Alarm** > **Alarm**". (Page 47)



- <**ON**> : Marked in orange, and always generates alarm on scheduled time.
- <**OFF**> : Marked in white, no alarm is generated even if an event occurs.
- Event Sync : Marked in Blue, generates alarm only when an event occurs.
- Apply to All Alarm : Applies the configured schedule to all alarms.



- When the alarm is generated on the scheduled time, you can stop the alarm by canceling the schedule.

6. When the Alarm Schedule setup is done, press <**OK**>.

BACKUP

You can check the backup device and set the backup schedule by channel or by time.
The product only supports external HDD of USB memory/DVD and USB/SATA type. (Page 98)

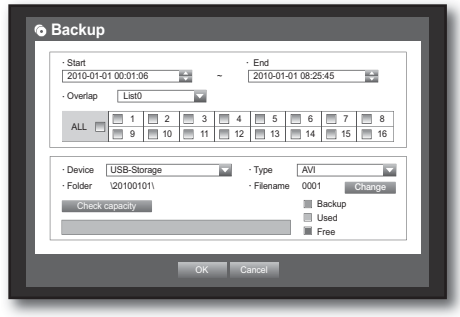
Setting the Backup

You can backup the desired data to a connected device.

Using the mouse may help make setup easier.

1. Press the [**MENU**] button on the remote control or front panel.
2. Use the left/right button (◄ ►) to select <**Backup**>. Backup menu is selected.

3. Press the [**ENTER**] button.
   A backup window appears.
   You can directly access it from the "**Live screen menu**". (Page 26)
4. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.



- Backup Range : Sets the <**Start**> and <**End**> time for the backup.
- Channel : Sets the channel to backup.
  You can select multiple channels.
- Device : Select a backup device from the recognized devices.
  If the built-in internal CD/DVD or external USB CD/DVD is used for the backup, you can select the format of recording between AVI and SEC.
- Type : Sets the backup data format.
  - AVI : Saves the CODEC information provided by the DVR with the recording data, and saved data can be played back by using external viewers (such as Windows Media Player) on a PC.
  - DVR : Saved data can be played back only by the DVR.
  - SEC : Saves data in the Samsung's proprietary format with built-in viewer, which supports immediate playback on a PC.
- Filename : You can set the back file name.
  - Refer to "**Using Virtual Keyboard**". (Page 36)
- Check capacity : Shows the size of the selected backup data, used and available capacity of the selected backup device.
- Overlap : Shows a list of overlapping data on a same time according to the number of data.
  It appears when one channel has multiple data on a certain time point due to changing of time or time zone settings, etc.
  - Refer to time and time zone of "**Setting the Date/Time/Language**". (Page 34)

5. When the backup setup is done, press <**OK**>.
   - If no available device is recognized for backup, <**OK**> button is not activated.

- The application may slow down during the backup.
- You can switch to the menu screen during the backup in operation, but playback of data is not available.
- When a CD/DVD or memory device is used for backup, it is not available to use the full capacity of the media since the system consumes a part of its capacity.
- If a CD or DVD media causes errors, the disc tray opens and closes a several times, and eventually backup process will fail. In this case, replace the CD/DVD media and try again.

- Pressing the <**Exit**> during the backup will return to the previous menu, while the backup progresses.

NETWORK CONFIGURATION

It provides networked monitoring of Live screen from a remote place, and supports mail forwarding function with events. You can configure the network environment which enables such functions.

Connection Mode

You can set the network connection route and protocol.

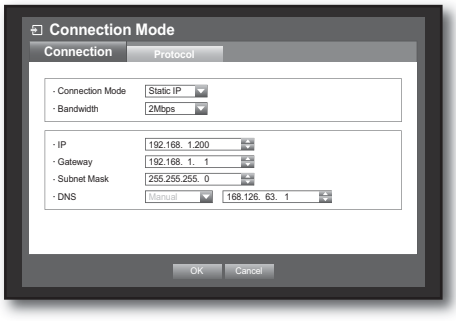
Setting the Connection

Sets the protocol and environment of the network.

Using the mouse may help make setup easier.

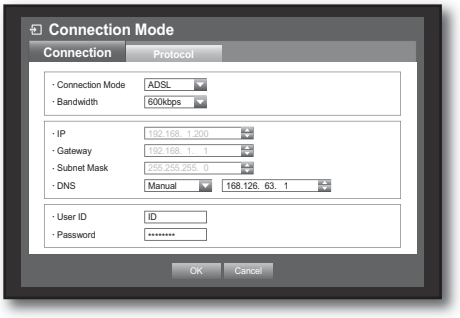
1. Press the [**MENU**] button on the remote control or front panel.
2. Use the left/right button (◄ ►) to select <**Network**>. Network menu is selected.
3. Use the up/down buttons (▲▼) to move to <**Connection Mode**>, and press [**ENTER**] button.

4. Select <**Connection**>.
   A window of connection mode setup appears.
5. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.



- Connection Mode : Sets the network connection mode.
- Bandwidth : Sets the maximum data flow to be transferred. (Upload speed)
  Options will vary depending on the selected connection mode.
  - For <**Static IP**>, <**Dynamic IP**> : Select one from 50 kbps ~ 2Mbps, and Unlimited.
  - For <**ADSL**>, select one from 50 kbps ~ 600 kbps.

- IP, Gateway, Subnet Mask, and DNS
  - For <**Static IP**> : You can directly input IP address, Gateway, Subnet Mask and DNS.
  - For <**Dynamic IP**> : IP address, Gateway, and Subnet Mask are set automatically.
  - For <**ADSL**> : IP address, Gateway, and Subnet Mask are set automatically.
- User ID, Password : In case you selected ADSL, provide the "**User ID**" and its "**Password**".



▪ DNS server for <**Dynamic IP**> and <**ADSL**> can be set by user only if you selected <**Manual**>.

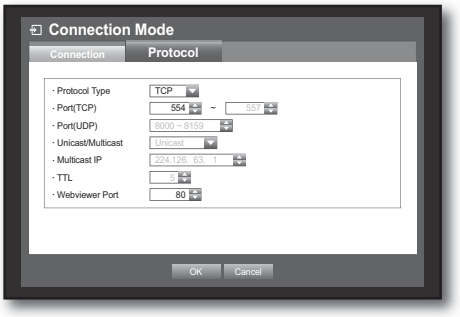
6. When the connection setup is done, press <**OK**>.

Setting the Protocol

3. Use the up/down buttons (▲▼) in <**Network**> window to move to <**Connection Mode**>, and press [**ENTER**] button.

4. Select <**Protocol**>.

5. Use direction buttons (▲▼◄ ►) to move to a desired item, and set the value.



- Protocol Type : Select the protocol type between TCP and UDP.
  - ▪ If selected UDP, selections of Port (TCP), Port (UDP), and Unicast/ Multicast are activated.
- Port (TCP) : Initially, <**554~557**> is set. It increases / decreases by 4.
  - TCP: It has better stability and lower speed when compared to UDP, and recommended for internet environments.
- Port (UDP) : Initially, <**8000~8159**> is set. It increases / decreases by 160.
  - UDP : It has less stability and faster speed when compared to TCP, and recommended for local area network (LAN) environments.
- Unicast/Multicast : Select one between Unicast and Multicast.
  If selected Multicast, Multicast IP and TTL are activated.
  - Unicast : Transfers data (UDP, TCP) individually to each connecting client.
  - Multicast : Multiple client can receive the data (only in UDP) without putting additional traffic load to the network.
- Multicast IP : User can directly input.
- TTL : Select from 0 ~ 255. Initial value for the TTL is set to <**5**>.
- Webviewer Port : Enter the port number for the Web Viewer. Initially, it is set to <**80**>.

6. When the protocol setup is done, press <**OK**>.

DDNS

You can set the DDNS site for a remote user's network connection.

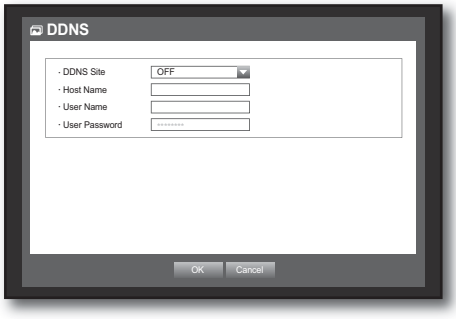
Using the mouse may help make setup easier.

3. Use the up/down buttons (▲▼) in <**Network**> window to move to <**DDNS**>, and press [**ENTER**] button.

4. Use virtual keyboard to enter user inputs.

- Refer to "**Using Virtual Keyboard**". (Page 36)
- If selected <**OFF**> or <**Samsung DDNS**>, input fields are deactivated.

5. When the DDNS setup is done, press <**OK**>.



- Refer to <**DDNS Setting**>. (Page 63)

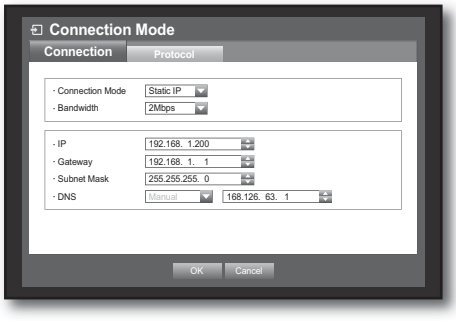
Connecting and Setting the Network

Networking may differ from the connection method, check your environment before setting the connection mode.

When no router is used

• Static IP mode

- Internet connection : Static IP ADSL, leased line, and LAN environments allows connection between the DVR and remote user.
- DVR Network Settings : Set the <**Connection Mode**> in <**Connection**> menu of the connected DVR to <**Static IP**>.
  - Consult your network manager for IP, Gateway and Subnet Mask.

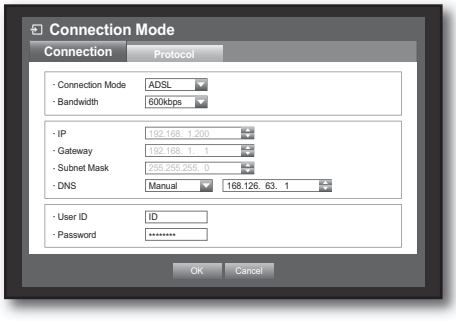


• Dynamic IP (DHCP) mode

- Internet connection : Connect the DVR directly to a cable modem, DHCP ADSL modem or FTTH network.
- DVR Network Settings : Set the <**Connection Mode**> in <**Connection**> menu of the connected DVR to <**Dynamic IP**>.

• ADSL (PPPoE: ID and password certification)

- Internet connection : An ADSL modem is directly connected to the DVR, where the ADSL connection requires user ID and password.
- DVR Network Settings : Set the <**Connection Mode**> in <**Connection**> menu of the connected DVR to <**ADSL**>.
  - ADSL <**User ID**> and <**Password**> should be the same to the ADSL user information.
    If you don't know the ID and password, consult your ADSL service provider.



When a router is used

▪ To avoid IP address conflict with the DVR's static IP, check followings :

• Setting the DVR with a static IP

- Internet connection : You can connect the DVR to a router which is connected to an ADSL/Cable modem or a router in a Local Area Network (LAN) environment.

• Setting the DVR Network

1. Set the <**Connection Mode**> in <**Connection**> menu of the connected DVR to <**Static IP**>.
2. Check whether the set IP address is in the static IP range provided by the IP router.
   IP, Gateway, and Subnet Mask : Consult your network manager.
   ▪ Check whether the set IP address is in the static IP range provided by the IP router.

▪ If a DHCP server is configured with starting address (192.168.0.100) and end address (192.168.0.200), you should set the IP address out of the configured DHCP range (192.168.0.2 ~ 192.168.0.99 and 192.168.0.201 ~ 192.168.0.254).

3. Check the Gateway address and subnet mask are equal to those set in the IP router.

• Setting the DHCP IP Address of the IP router

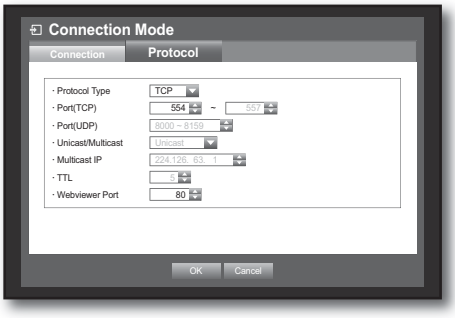
1. To access the IP router's configurations, open a web browser on the local PC that is connected to the IP router and enter the router's address (ex : http://192.168.1.1).
2. At this stage, make the local PC's windows network configurations to the below example :
   Ex) IP : 192.168.1.2
   Subnet Mask : 255.255.255.0
   Gateway : 192.168.1.1

- Once connected to the IP router, it prompts with password. While entering nothing to the User Name field, enter "**admin**" into the password field and press <**OK**> to access the router configurations.
- Access the router's DHCP configuration menu and set its DHCP server activation, and provide the start and end address.
  Set the start address (192.168.0.100) and end address (192.168.0.200).

▪ Above steps may differ from the router devices depending on the manufacturer.

• Setting Router's Port Forwarding

1. Set the protocol to <**TCP**>.
2. External Port Range : Enter the TCP Port set in the <**Port(TCP)**> in <**Protocol**> menu of the connected DVR. If more than one DVRs are connected to the router, the TCP port can be different.
3. Internal PC IP Address : Enter the IP address set to the <**IP**> in <**Connection**> menu of the connected DVR.
4. Internal Port Range : Set the same to the "**External Port Range**".



▪ Above steps may differ from the router devices depending on the manufacturer.
Port forwarding is required when you want to access the DVR connected to the router from outside of the router's network.

DDNS Setting

DDNS is a short form of Dynamic Domain Naming System.
DNS (Domain Name System) is a service that routes a domain name consisting of user friendly characters (ex : www.google.com) to an IP address consisting of numbers (64.233.189.104).
DDNS (Dynamic DNS) is a service that registers a domain name and the floating IP address with the DDNS server so that the domain name can be routed to the IP address even if the IP is changed in a dynamic IP system.

- **Setting DDNS in the DVR**

  Set <**Protocol Type**> in the <**Protocol**> menu of the connected DVR to the following :

  Ex) Protocol Type : TCP
  Port (TCP) : 0554,0555,0556,0557
  DDNS Site : Samsung DDNS

- **DDNS Settings of the Router**

  Select the corresponding menu for the network transfer protocol of the router.

Live Transfer

Sets the quality of the image that is transferred from the DVR to the network.

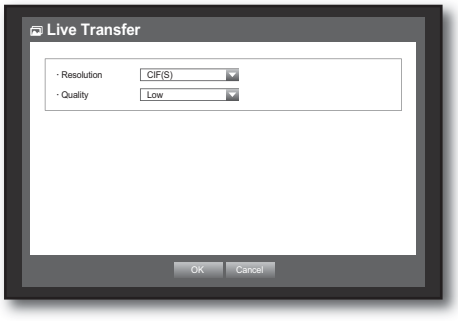
Using the mouse may help make setup easier.

3. In the <**Network**> setting window, press the up/down (▲▼) button to move to <**Live Transfer**> and press the [**ENTER**] button.
The Live Transfer window appears.

4. Use the direction buttons (▲▼◄ ►) to move to a desired item and set the value.

5. When the live transfer is done, press <**OK**>.

- For the resolution of the live transfer, refer to "**Resolution**". (Page 54)



Mailing Service

You can send an e-mail to a DVR-registered user at a specific time interval, or if an event occurs.

- If an event occurs with a channel where the camera's video is set to <**OFF**> or the remaining recording count is set to <**OFF**>, only the text notification will be sent to the applicable email address.

SMTP Setting

Sets the SMTP mail server.

Using the mouse may help make setup easier.

3. In the <**Network**> setting window, press the up/down (▲▼) button to move to <**Mailing Service**> and press the [**ENTER**] button.
4. Select <**SMTP**>.
   You will see the SMTP setting window.
5. Use direction buttons (▲▼◄ ►) to move to a desired item and set the value.

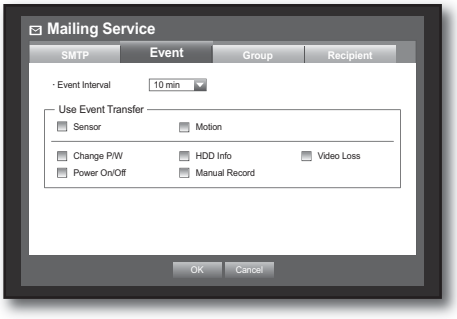
- ServerType : Displays the connected server type.
- Server : Enter a server to connect to.
- Port : Sets the communication port.
- Use Authentication : Check this if the SMTP server uses user authentication.
  The account input box will be activated.
- User : Enter a user to use authentication when connecting to the SMTP server.
- Password : Enter the password of the SMTP server user.
- Secure Transfer : Select one from <**Never**> and <**TLS (if available)**>.
- Sender : Use the virtual keyboard to enter the sender's e-mail address.
  - Refer to "**Using Virtual Keyboard**". (Page 36)
- TEST : Conducts the test on the server settings.

6. When the SMTP setting is done, press <**OK**>.

Event Setting

You can set the interval and type of the event that will be sent to the user.

Using the mouse may help make setup easier.



3. In the <**Network**> setting window, press the up/down (▲▼) button to move to <**Mailing Service**> and press the [**ENTER**] button.
4. Select <**Event**>.
5. Use direction buttons (▲▼◄ ►) to move to a desired item and set the value.

- Event Interval : Set the event interval.
  - If a series of events occurs, the e-mail will be sent at the specified interval, not on each event.
- Use Event Transfer : Select an event type to send if an event occurs.
  If the selected event occurs, the e-mail will be sent to the group that has the recipient authority.

6. When the event setting is done, press <**OK**>.

Group Setting

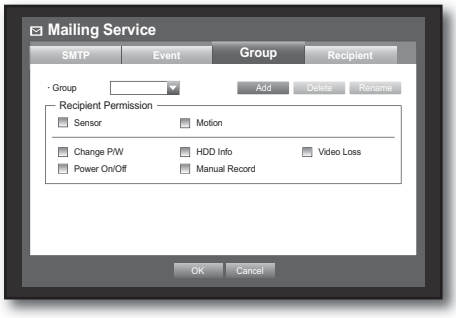
You can set the group to whom the e-mail is sent, and specify the permission for each group.
You can add recipients for each group in the <**Recipient**> menu item.
The recipient is set separately from the DVR user group.

Using the mouse may help make setup easier.

3. In the <**Network**> setting window, press the up/down (▲▼) button to move to <**Mailing Service**> and press the [**ENTER**] button.

4. Select <**Group**>.

5. Use direction buttons (▲▼◄ ►) to move to a desired item and set the value.



- Add : Select <**Add**> and use the virtual keyboard to add a group.
  - Refer to "**Using Virtual Keyboard**". (Page 36)
- Delete : Deletes the selected group.
- Rename : You can reset the recipient permission of an existing group.
- Recipient Permission : Set the permission of the recipient group.

6. When the group setting is done, press <**OK**>.

Recipient Setting

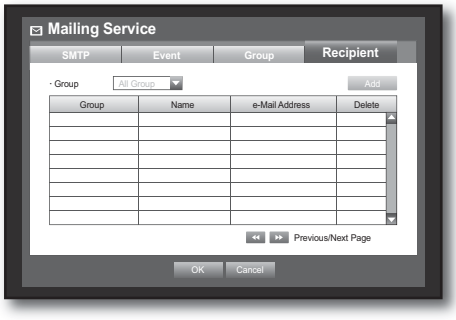
You can add a user to the group or delete him/her from the group, or change the group.

Using the mouse may help make setup easier.

3. In the <**Network**> setting window, press the up/down (▲▼) button to move to <**Mailing Service**> and press the [**ENTER**] button.

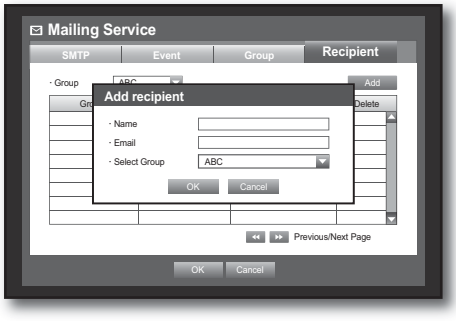
4. Select <**Recipient**>.

5. Use direction buttons (▲▼◄ ►) to move to a desired item and set the value.



- Add : You can select a recipient name, e-mail address or group.
  You should have created a group in the <**Group**> menu item before you can add a user to the group.
  - Refer to "**Using Virtual Keyboard**" for input of the user name and the e-mail address. (Page 36)

6. When the recipient setting is done, press <**OK**>.



CONTROLLING A PTZ DEVICE

The DVR enables you to adjust the settings of a PTZ camera as well as an ordinary one to your preference.

PTZ Device

The PTZ device can be activated only if a channel in connection with the PTZ camera is selected.

Getting started with PTZ

The PTZ camera is available, only if a channel is selected, in the following way :

- Using the button on the remote control or the front panel
  Select the [**PTZ**] button on the remote control or the front panel.
- Using the launcher menu
  Click PTZ < PTZ > to display the live launcher.
- Using the right-click menu in Live mode
  Right-click any area on the screen to display the context menu, and select <**PTZ Control**>.

- Using icons on the live screen
  Click the PTZ < PTZ > icon on the live screen.

- The PTZ function is available only if the PTZ camera is connected so that the PTZ icon is displayed on the screen.

Using the PTZ camera

You can use one camera to perform all functions of PAN, TILT and ZOOM for monitoring multiple places and set the preset to your preference in a desired mode.

1. Launch the <**PTZ Control**> menu.
As the PTZ < PTZ > icon on the bottom right corner turns yellow, you access the "**PTZ Control**" mode to display the "**PTZ Control**" menu.

- Be sure to configure PTZ working environments before operation, since the PTZ Working(Active) mark can be appeared to be activated even when PTZ is not operative.

2. Use direction keys in the launcher menu or use direction buttons (▲▼◄ ►) on the remote control or the front panel to move the target area to record.

- PTZ Wheel : Clicking a nearer point to the center will move in that direction slowly; clicking a farther point from the center will move fast.
  - Keep clicking left to rotate the lens counter clockwise; keep clicking right to rotate the lens clockwise.
- Zoom : You can use the Zoom function of the PTZ camera.
- IRIS : Adjusts the intensity of radiation incoming to the iris.
  - For some cameras, you can use the menu access commands to control the iris.

- Focus : Enables you to adjust the focus manually.
- Auto Pan : The camera automatically runs between the two points that you selected.
  - This is not available for the coaxial type of communication.
- Scan : The camera moves to the preset points in the specified sequence.
  If multiple presets are specified, the PTZ camera will automatically move to all of the preset points one at a time.
- Pattern : Makes the PTZ camera remember and follow the past route.
  - For RS-485 communications, functions of Auto Pan, Scan and Pattern are supported by Samsung, Panasonic and Pelco protocols. However, the menu name and operation may differ depending on the protocol. (Panasonic: Auto Pan, Sequence, Sort / Pelco: Auto Pan, Frame Scan (or Scan), Pattern)
  - For the coaxial communications, the operation may differ depending on the protocol.

- Before entering the PTZ device control mode, set the values of the PTZ device in the <**Setting the PTZ**> menu. (Page 45)
- For camera specifications that supports PTZ comtrol depending on communication method, refer to our web site.

Preset Setting

A preset is a set of specific target points of a PTZ camera, and up to 20 presets per a camera can be stored.

Using the mouse may help make setup easier.

1. In PTZ Control mode, use the direction buttons to adjust the camera in a desired direction.
2. Select the <**Save**> key.
   The virtual keyboard for inputting the preset will appear.
   - Refer to "**Using Virtual Keyboard**". (Page 36)

- Save : You can add and save the preset.
- Rename : You can change the settings of the existing presets.
- Delete : Deletes the selected preset.
- Delete All : Deletes all existing presets.

- If you replace the camera of the channel that stores the preset list with a new one, you should reset the preset accordingly.

3. Press <**OK**>.
   The preset will be saved as a name that you entered.

Camera Setting

A PTZ camera has its own menu system. Optimize the PTZ camera according to the DVR.

Using the mouse may help make setup easier.

1. Connect the PTZ camera to the DVR and run the PTZ camera again to display the camera's protocol setting window.
2. Check the protocol ID of the camera.
   - In "**Device** > **Setting the PTZ**", enter the PTZ camera ID in the ID input box of the channel that is connected to the PTZ camera. (Page 45)

3. Select <**Camera Setup**> in the PTZ Control menu.
   The camera-specific menu appears.
   - You can configure the settings of only those cameras that support the protocols of Samsung, Pelco D/P, AD and Panasonic.
   - If you are setting Auto Pan or Pattern in the camera menu, press and hold the appropriate button for a certain time so that the button operation can be different from that in normal PTZ setting.

SEARCH

You can perform the search for recorded data by the time or by the search criteria such as an event.
You can access the <**Search**> menu directly in Live mode.

1. In Live mode, right-click any area of the screen.
   The Live menu appears.
2. Select <**Search**>.
   Or, press the [**SEARCH**] button on the remote control or the front panel.

3. The Search menu appears.
   - If you have not checked "**POS USE**" in the "**Main Menu** > **Device** > **POS Device**" menu, the Search menu does not include the "**POS Search**" item. (Page 48)
4. The search can be restricted by the Auto Delete function.
   Refer to "**Setting the Recording** > **Record Option**". (Page 54)

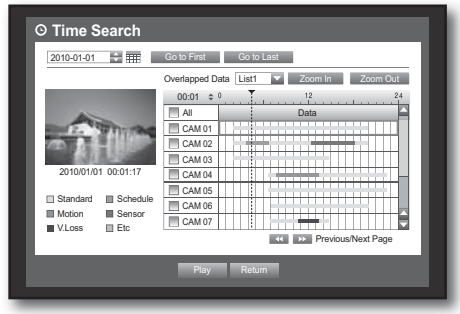
- Overlapped data : It only appears if there exists overlapped data on a certain time, produced due to the change of DVR's time setup. The latest data comes first, from <**List0**>.
  It does not appear in <**Backup Search**>.

Time Search

You can search for recorded data of a desired time.
As the time to display may be different depending on the time zone and the DST standard time, the time of data recorded in the same time can be displayed differently depending on time zone and DST settings.

Using the mouse may help make setup easier.

4. Select <**Time Search**> in the <**Search**> menu.
5. Select a date to search.
   - Refer to "**Using the Calendar**". (Page 35)
6. The record data on the specific date will be listed.
   The display bar is different according to the data type.
   So check the data type for the color in the left pane.
7. Use direction buttons (▲▼◄ ►) to set the search criteria and press the [**ENTER**] button.



- Go to First : Moves to the earliest date.
- Go to Last : Moves to the most recent date.
- Time : Enter a time to perform the search or use the up/down button <▲▼> to select one.

- Zoom In : The map enlarges in detail.
  It will switch in the sequence of 24 hours - 4 hours - 1 hour - 5 minutes.
- Zoom Out : The map will switch in the reverse order of the detailed mode above.
  It will switch in the sequence of 5 minutes - 1 hour - 4 hours - 24 hours.

■ Double-click a desired time to zoom it in/out.

- Preview : Click <**Channel**> and select (click, drag) a time in <**Duration**> to display a still image for the portion.
  - If the selected channel does not contain any recorded data, it will be marked black.

8. Select a data item and click <**Play**>.
The screen switches to the data playback mode.

Event Search

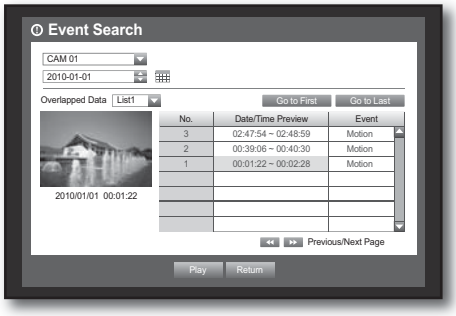
You can search for events by the channel and play them.

Using the mouse may help make setup easier.

4. Select <**Event Search**> in the <**Search**> menu.

5. Use direction buttons (▲▼◄ ►) to set the search criteria and press the [**ENTER**] button.

■ All record events on a specific date will be found. (Normal/ Schedule recording included)



- Date/Time Preview : If you select a data item in the list, the still image of the selected data will be displayed in the left preview pane.
- Event : Displays the type of the event that occurred.

6. Select a data item and click <**Play**>.
The screen switches to the event data playback mode.

Backup Search

Searches for backup data in the connected backup device.
Only data in the format of DVR is included in the search.
Refer to <**Type**> in "**Backup** > **Setting the Backup**". (Page 58)

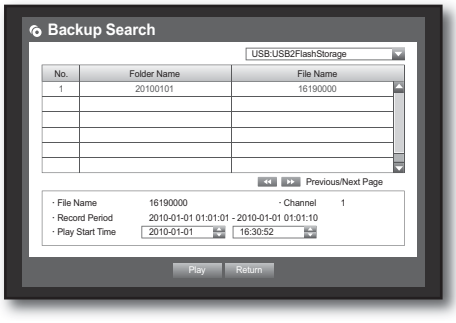
Using the mouse may help make setup easier.

4. Select <**Backup Search**> in the <**Search**> menu.

5. Use direction buttons (▲▼◄ ►) to set the search criteria and press the [**ENTER**] button.

- Record Period : Displays the record period.
- Channel : Displays the recorded channel.
- Play Start Time : Select a time that you start playing.

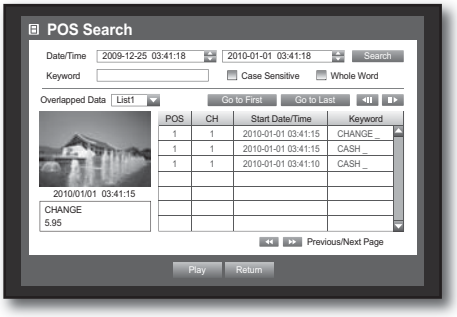
6. Select a data item and click <**Play**>.
The screen switches to the backup data playback mode.



POS Search

You can search for data in the POS device that is connected to the DVR.

You can use the mouse to select the related items.



4. Select <**POS Search**> in the <**Search**> menu.
5. Use direction buttons (▲▼◄ ►) to set the search criteria and press the [**ENTER**] button.
   - You can enter specific text to refine your search.

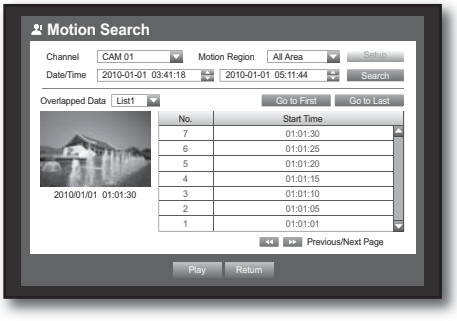
- Keyword : Use the virtual keyboard to enter a keyword.
- Search Criteria :
  - <**Case Sensitive**> : If selected, search will be performed case-sensitively.
  - <**Whole Word**> : If selected, only the exact matches with the keyword will be found.
- Preview : Select a data item in the list to display the preview image. Information about the image will be displayed on the bottom of the screen.
- ◄II II► : You can use these buttons to accelerate your search if you have a huge list of search results.

6. Select a data item and click <**Play**>.
   The screen switches to the POS data playback mode.

Motion Search

If a motion is detected in each channel, you can set a desired area to perform the search.

You can use the mouse to select the related items.



4. Select <**Motion Search**> in the <**Search**> menu.
5. Use direction buttons (▲▼◄ ►) to set the search criteria and press the [**ENTER**] button.
   - If you set the motion area to <**Manual Area**>, the <**Setup**> button will be activated.

- Motion Region : Select an area to perform the search.
  - All Area : Searches for all areas of the selected channel.
  - Current Area : Searches for the motion area for each channel specified in "**Motion Detection** > **Setting the Motion Detection Area**". (Page 56)
  - Manual Area : You can set the motion area manually.
- Setup : The Setup button will be activated only if you have set the motion area to Manual. Press this button to display the area setting window.
- Date/Time : The Date/Time will be automatically set by the hour, and the end time will be automatically set to one hour later than the start time if it is set.
- Preview : Select a data item in the list to display the still image of the item.

6. Select a data item and click <**Play**>.
   The screen switches to the motion data playback mode.

Play

You can play data stored in the HDD and backup a desired portion of the data.

Using the mouse may help make setup easier.

1. In Live mode, click <**Play**> in the right-click menu or < ▶ > in the launcher menu, or press the Play button on the remote control or the front panel.

2. Use the up/down button (▲▼) to select a menu.

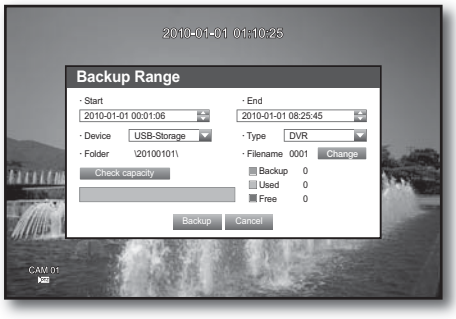
- For data search, refer to <**Search**>. (Page 68)

3. Select a data item and click <**Play**> in the Search menu. The selected data is played and the play launcher appears on the screen.

- If there is an existing data, <**Play**> will start immediately without performing the search.

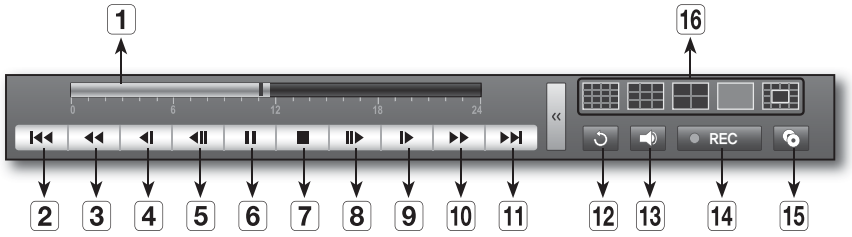
• Playback Information : Displays the date and time of the current data in the top corner.

• Backup : Click < ◉ > to set the current time to the start time of backup; you can specify a backup area using the mouse (yellow triangle).
Click < ◉ > again to set the current time to the end time of the backup and the "**Backup Range**" window appears.
- Type : Supports formats of DVR, AVI and SEC.
Refer to a list of formats in "**Setting the Backup**". (Page 58)
- Device : Select a backup device.
- Check Capacity : Enables you to check the capacity of the selected storage device.



4. If you want to return to the Live screen in Play mode, click < ■ > in the launcher menu or press the [■] button on the remote control or the front panel.

Using the Playback Button

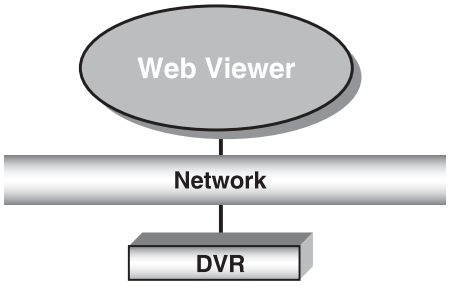


Part Names		Functions
1	Play Timeline	Indicates the current playback point, and can be used to move.
2	Skip Backward	Moves backward by unit time.
3	Backward Fast Play	Used for quick backward search while in Play. (-x2, -x4, -x8, -x16, -x32, -x64)
4	Backward Slow Play	Used for backward frame-by-frame search while in PAUSE.
5	Step Backward	Moves backward by 1 frame.
6	II	Pause
7	Stop	Stops playback and moves to the live screen.
8	Step Forward	Moves forward by 1 frame.
9	Forward Slow Play	You can play up to 4 channels in real time. ▪ In a split mode, the real time playback may not be supported, depending on the record quality, resolution and number of channels. And some frame rates may be supported.
10	Forward Fast Play	Used for quick forward playback. (x2, x4, x8, x16, x32, x64)
11	Skip Forward	Moves forward by unit time.
12	↺	Return to the previous.
13	Audio	Sets Audio ON/OFF.
14	REC	Records all channels in Live mode.
15	Partial Backup	Begins backup of the selected section of the video being played, with the specified starting/ ending point.
16	Mode Switch	Select a desired play mode or press the [**MODE**] button to switch the mode in the sequence of 16-split, 9-split, 4-split, 1-split and 13-split. ▪ The grey area in the center of the 13-split mode plays the Live channel. The default channel of the Live mode is CH1, which can be changed later.

INTRODUCING WEB VIEWER

What is Web Viewer?

Web Viewer allows remote access to your DVRs. You have access to live video, archived video, PTZ control (if configured), etc.



PRODUCT FEATURES

- Remote access from a standard browser
- Supports PTZ camera controls
- Supports 1, 4, 8, 16 camera viewing formats (maximum of 16 cameras in the list).
- Gets JPEG format images to print and save to “Print or Save JPEG format images”.
- Record video in AVI format-compatible with popular media players. (needed the Xvid codec)

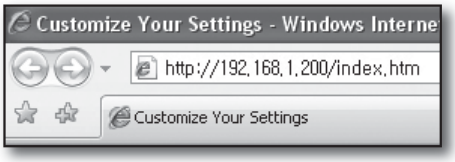
SYSTEM REQUIREMENTS

The following lists the minimum suggested hardware and operating system requirements needed to run the Web Viewer.

OS	Windows XP Professional Windows 2000 Windows Vista Home Basic /Premium Windows 7
Web Browser	Internet Explorer 6.0.2900.2180 or higher
CPU	Intel Pentium 4. 2 GHz
Memory	512 MB
Monitor	High Color 16-bit 1024 x 768
HDD	50 MB(Installation space required) * Additional HDD space required for recording. Recorded file size will vary depending on recording quality settings.

CONNECTING WEB VIEWER

1. Open your web browser and type the IP address or URL of DVR into the URL address box.



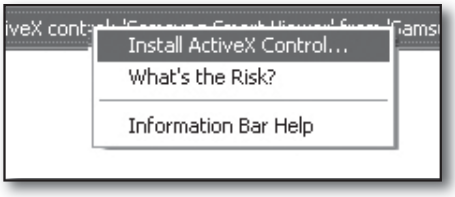
The basic URL of the DVR is as following in case of MAC address :

- 00-00-F0-ab-cd-ef : nabcdef.websamsung.net
- 00-16-6c-ab-cd-ef : mabcdef.websamsung.net
- 00-68-36-ab-cd-ef : pabcdef.websamsung.net
- 00-09-18-ab-cd-ef : iabcdef.websamsung.net
- You can also use registered URL which setups up in the Setup menu of your DVR.

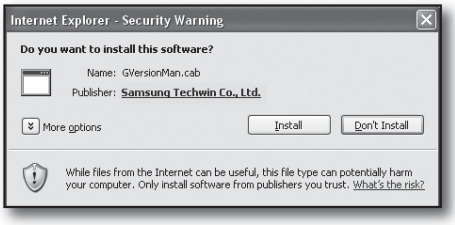
2. Set the Admin ID and password same to those of the DVR Admin.
   For general users, enter the DVR user ID and password.

- It allows up to 10 simultaneous access including the Admin and general users.
- It does not allow multiple login of the Admin user.
- Initial password of the Admin user is set to "4321".
- Password of the Admin and general users can be changed in <**Permission Management**> menu of the DVR.
- Normal users should have set <**Viewer**> under <**Permission Management**> to "Use" before connecting to the Web Viewer. (Page 39)
- All settings are applied by the DVR's settings.

3. Click <**Install ActiveX Control…**>.

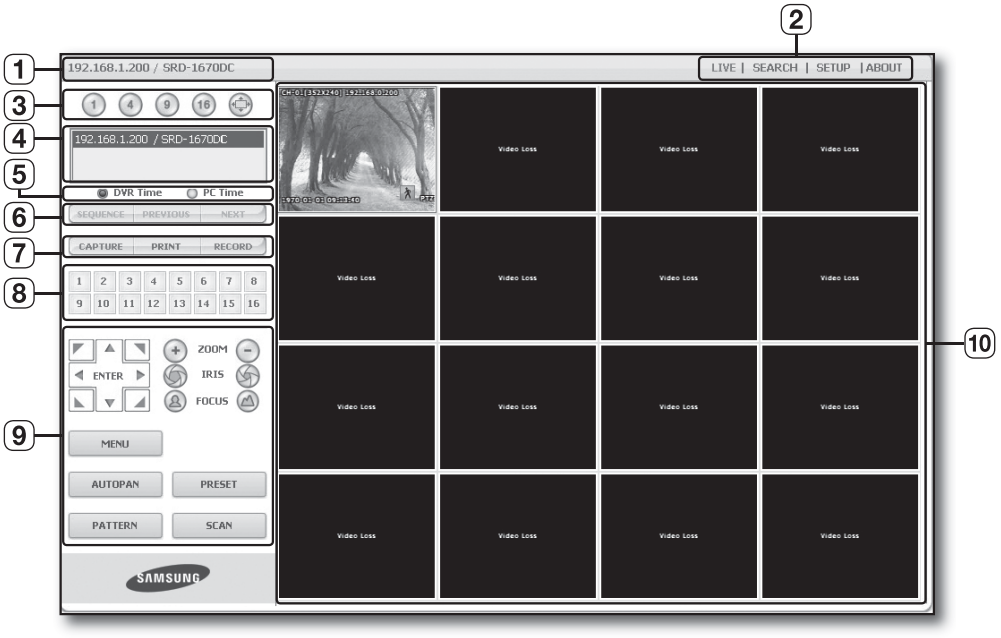


4. Click <**Install**>.


Internet Explorer - Security Warning
Do you want to install this software?
Name: GVersionMan.cab
Publisher: Samsung Techwin Co., Ltd.
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

5. You may have "**Windows Security Alert**" that attempts to block this with the Windows Firewall. In that case, click <**Unblock**> to start Web Viewer.
6. Installation is complete.
   Now you can see the main screen of Live Viewer.

Windows Security Alert
To help protect your computer, Windows Firewall has blocked some features of this program.
Do you want to keep blocking this program?
Name: Internet Explorer
Publisher: Microsoft Corporation
Keep Blocking
Unblock
Ask Me Later
Windows Firewall has blocked this program from accepting connections from the Internet or a network. If you recognize the program or trust the publisher, you can unblock it. When should I unblock a program?

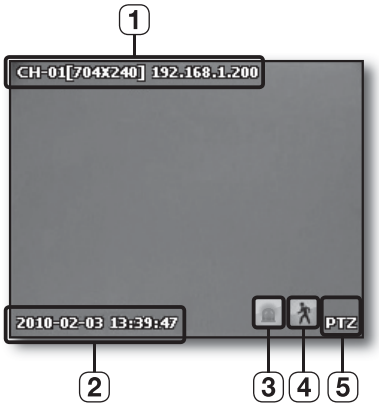


The Live Viewer screen consists of following :

1. This displays the IP address and the model name of the connected DVR.
2. These menus consist of <**LIVE**>, <**SEARCH**>, <**SETUP**>, <**ABOUT**>.
3. These buttons are used for the screen split and full screen mode.
4. Shows the IP address and model name of the connected DVR.
5. Select <**DVR Time**> or <**PC Time**> for the OSD time information display setting of the Live Viewer.
6. These buttons are used for sequence and changing the screen channel.
7. These buttons are used for capture, print, and save the image.
8. Shows the channel of the connected DVR.
9. These buttons are used for PTZ related functions.
10. This displays the screen for connected camera with DVR.

- The resolution is set to 1024X768 pixels.
- The initial split-screen mode is set according to the number of channels connected to DVR. You can change the split-screen mode by clicking buttons for split-screen modes.

OSD INFORMATION DISPLAY



1. The channel number, video size, and IP address of the connected DVR are displayed.
2. The current date and time will be displayed according to the selected time information display setting <**DVR Time**> or <**PC Time**>.
3. Alarm icon appears when alarm is issued.
   It disappears when pressed the [**ALARM**] button of the DVR.
4. Motion icon appears when motion is detected.
   It disappears when pressed the [**ALARM**] button of the DVR.
5. It displays whether the PTZ controls are active.

- If you have set PTZ cameras for the DVR, "**PTZ**" is displayed on the screen. Select a PTZ camera channel and use the [**PTZ**] button for camera control.
- Power PTZ is not supported for coaxial communications.

SPLIT-SCREEN

You can change the split mode by clicking each number icon.

SINGLE MODE | QUAD MODE | NINE MODE | SIXTEEN MODE

- Click <1> button.
  The screen displays the selected camera connected to the DVR in "**SINGLE MODE**".
- Click <4> button.
  The screen displays the selected camera connected to the DVR in "**QUAD MODE**".
- Click <9> button.
  The screen displays the selected camera connected to the DVR in "**NINE MODE**".
- Click <16> button.
  The screen displays the selected camera connected to the DVR in "**SIXTEEN MODE**".
- Click <> button.
  The screen displays the selected camera connected to the DVR in "**FULL SCREEN MODE**".
  Double clicking on the screen or pressing any button of the keyboard returns to the previous mode.

CONNECTED DVR

This displays the IP address and the status of the connecting DVR.

- Connection failure message
  No Response : Appears when the DVR does not respond.
  Access Denied : Appears when the maximum number of users is exceeded.
- The number of simultaneous connections are limited to 10.

Setting the display of the OSD time information

Select <**DVR Time**> or <**PC Time**> for the OSD time information display setting.

- **DVR Time** : Based on the time of the connected DVR
- **PC Time** : Based on the time of the PC currently running the Web Viewer.

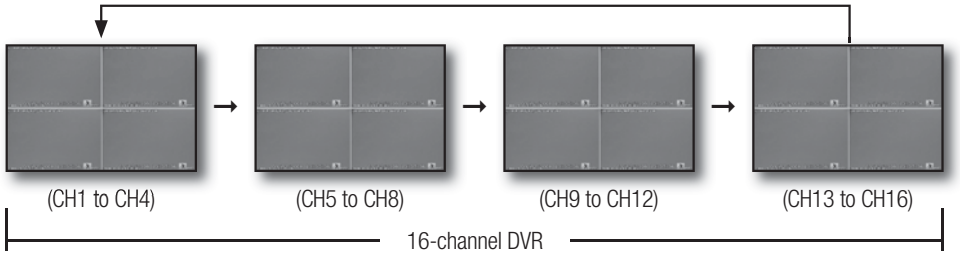
CHANGING THE LIVE SCREEN MODE

- 16-split mode does not support "**SEQUENCE**", "**PREVIOUS**" and "**NEXT**".

- **SEQUENCE** : When this button is clicked, screens are switched at a preset interval.
  In SINGLE MODE, the channel numbers are sequentially switched from 1 to 16.
  In QUAD MODE, the screens are changed like 1st 4 channels (1~4) → 2nd 4 channels (5~8) → 3rd 4 channels (9~12) → 4th 4 channels (13~16).
  In NINE MODE, the screens are changed from 9 channels (1~9) to 7 channels (10~16).
  In SIXTEEN MODE, the screen refreshes at the preset interval.
  - Preset interval (10 seconds)

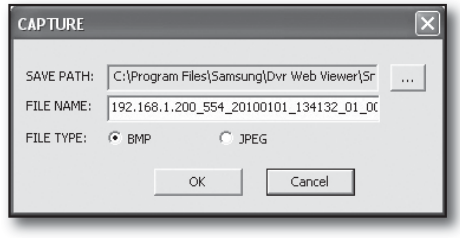
- **PREVIOUS** : When this button is clicked, the previous screen appears.
  In SINGLE MODE, the channel numbers are switched in reverse order.
  In QUAD MODE, the screens are changed like 1st 4 channels (1~4) → 2nd 4 channels (13~16) → 3rd 4 channels (9~12) → 4th 4 channels (5~8).
  In NINE MODE, the screens are changed from 9 channels (1~9) to 7 channels (10~16).
  In SIXTEEN MODE, the screen is refreshed.

- **NEXT** : When this button is clicked, the next screen appears.
  In SINGLE MODE, the channel numbers are sequentially switched from 1 to 16.
  In QUAD MODE, the screens are changed like 1st 4 channels (1~4) → 2nd 4 channels (5~8) → 3rd 4 channels (9~12) → 4th 4 channels (13~16).
  In NINE MODE, the screens are changed from 9 channels (1~9) to 7 channels (10~16).
  In SIXTEEN MODE, the screen is refreshed.
  - If 16-channel DVR is connected, clicking "**NEXT**" in QUAD MODE is to change the screen as shown in the picture.



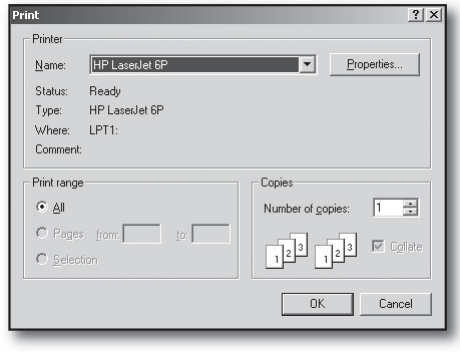
SAVING THE LIVE SCREEN ON THE PC

- **CAPTURE** : Saves the current screen into a BMP or JPEG file.

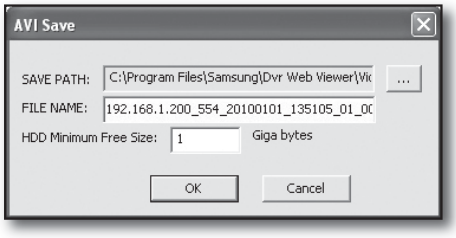


  - The default saving path is "C:\Program Files\Samsung\Dvr Web Viewer\SnapShot\Live". To change the saving path, click <**SAVE PATH** (...)> button and then select the path you want. For Windows Vista or 7, the saving path is "C:\users\(user ID)\AppData\LocalLow\Samsung\DVR Web Viewer\Snapshot\" by default, which cannot be modified.
  - The file is automatically named as following : "IP address_Port number_YYYYMMDD_camera number_index"
    Ex) 192.168.1.200_554_20100101_134132_01_00

- **PRINT** : Prints out the selected screen out of the currently displayed live screens. It also prints the IP address, time, camera number and the current event status together.



• **RECORD** : Saves the current image on the screen and saves it as a avi video file.



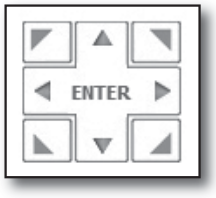
- To record it, it is required at least 1GB of available space.
- The default saving path is "C:\Program Files\Samsung\Dvr Web Viewer\VideoClip\Live". To change the saving path, click <**SAVE PATH** (...)> button and then select the path you want. For Windows Vista or 7, the saving path is "C:\users\(user ID)\AppData\Local-Low\Samsung\DVR Web Viewer\VideoClip\" and it cannot be modified.
- The file is automatically named as following : "IP address_Port number_YYYYMMDD_camera number_index" Ex) 192.168.1.200_554_20100101_135105_01_00
- For AVI Save, you need the Xvid codec for playing saved files.
- HDD Minimum Free Size : During the recording, if there is no more capacity available in the HDD than set free space will prompt with a popup message : "**Cannot record due to insufficient disc space in the HDD**".

CHANGING THE LIVE SCREEN CHANNEL

- Blue numbers : Indicates that the current channel is connected to a camera.
- Gray numbers : Indicates that the current channel is not connected to any camera.

USING PTZ CAMERA

Click the direction buttons to control the camera.



• <ZOOM>

You can zoom in or out an image by using the ZOOM button.

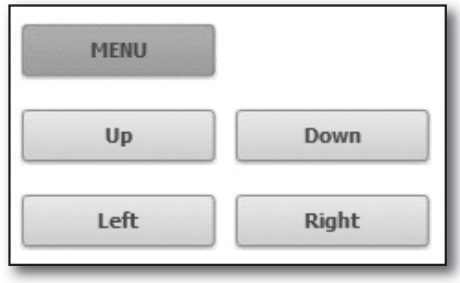
• <IRIS>

You can adjust the entering light amount by using the IRIS button.

• <FOCUS>

You can adjust the focus by using the FOCUS button.

• **MENU** : Appears the camera menu screen.



• **PRESET** : Moves the lens direction to a preset direction.

1. If you click a preset, the camera moves to the selected preset's position.

2. You can delete the selected preset or all presets.

3. You can save a new preset number and name.

- You can save presets up to 20.

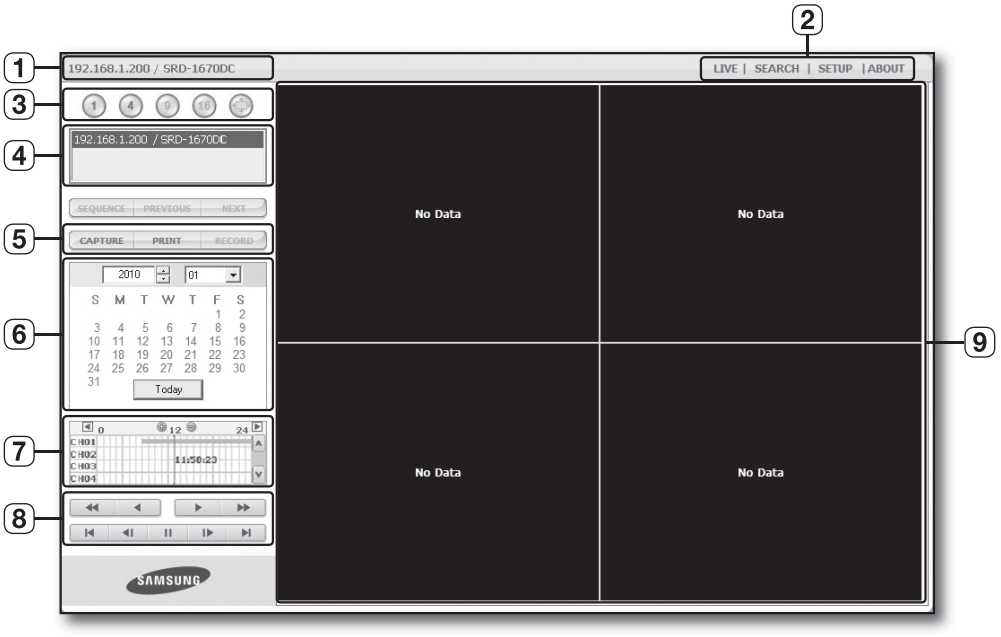
• **AUTOPAN** : Moves the camera lens direction between 2 points set for the camera.

• **SCAN** : Moves the camera lens direction between 2 preset points of the camera.

• **PATTERN** : You can set camera various movement patterns such as zoom, move, etc. so that a camera automatically moves according to the pattern.

- While the DVR controls a PTZ camera, Web Viewer cannot control the camera.
- Camera menu setup is only available for camera supporting the function.
- Each function of PTZ is same to that of the DVR.
- Pan/Tilt of the Smart dome camera is manipulated automatically to center the camera to the mouse clicked point.
- If you drag the mouse using the left button on a certain point, Pan/Tilt of the Smart dome camera is manipulated automatically to center the camera to the middle point between the dragging start and end position. Upward dragging will zoom out, while downward dragging will zoom in.
- Tilt of Power PTZ operates properly within 45°.
- Power and Pan Tilt functions are only available for camera supporting the functions.
  Ex : Samsung SCC-C6475

USING SEARCH VIEWER



The Search Viewer screen consists of following :

1 This displays the IP address and the model name of the connected DVR.

2 These menus consist of <**LIVE**>, <**SEARCH**>, <**SETUP**>, <**ABOUT**>.

3 These buttons are used for the screen split and full screen mode.

4 Shows the IP address and model name of the connected DVR.

5 These buttons are used for capture, print, and save the image.

6 This displays a calendar at which you can search the recorded video.

7 This displays a timeline at which you can search the recorded video by the time.

8 These buttons are used for controlling playback.

9 This displays the screen for playback of recorded video.

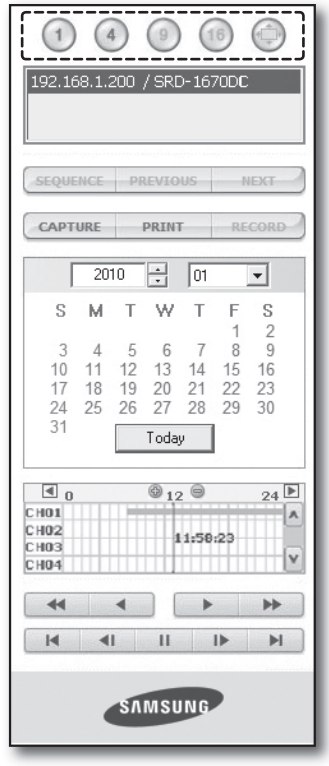
▪ <**SEQUENCE**>, <**PREVIOUS**>, <**NEXT**> buttons are not available in SEARCH menu.

SPLIT-SCREEN

You can change the split mode by clicking each number icon.

SINGLE MODE

QUAD MODE



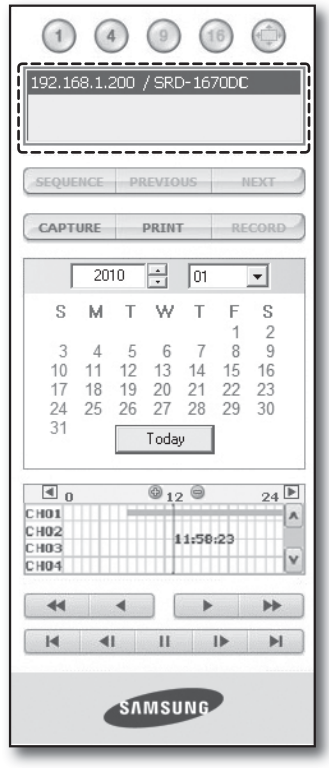
- Click <(1)> button.
  The screen displays the selected camera connected to the DVR in "**SINGLE MODE**".
- Click <(4)> button.
  The screen displays the selected camera connected to the DVR in "**QUAD MODE**".

- Only SINGLE and QUAD MODE are available in SEARCH menu.
- If 16 channel DVR is connected, you can select a mode from SINGLE to SIXTEEN MODE.

CONNECTED DVR

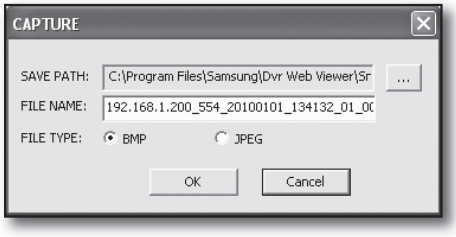
This displays the IP address and the status of the connecting DVR.

- Connection failure message
  No Response : Appears when the DVR does not respond.
  Access Denied : Appears when the maximum number of users is exceeded.
- The number of simultaneous connection is limited to 3.



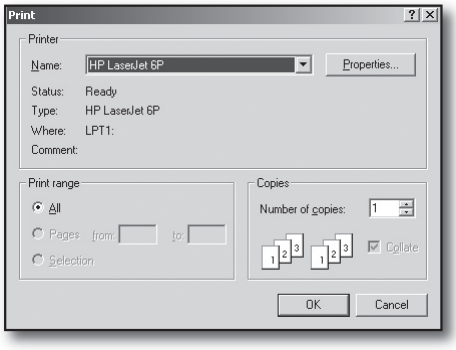
SAVING THE LIVE SCREEN ON THE PC

- **CAPTURE** : Saves the current screen into a BMP or JPEG file.

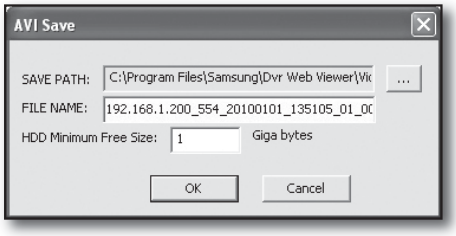


- The default saving path is “C:\Program Files\Samsung\Dvr Web Viewer\SnapShot\Search”. To change the saving path, click <**SAVE PATH** (…)> button and then select the path you want. For Windows Vista or 7, the saving path is “C:\ users\(user ID)\AppData\LocalLow\Samsung\DVR Web Viewer\Snapshot\”and it cannot be modified.
- The file is automatically named as following : “IP address_Port number_YYYYMMDD_camera number_index” Ex) 192.168.1.200_554_20100101_134132_01_00

- **PRINT** : Prints the playback screen that is now being displayed. It also prints IP address, time, camera number, and current event state.



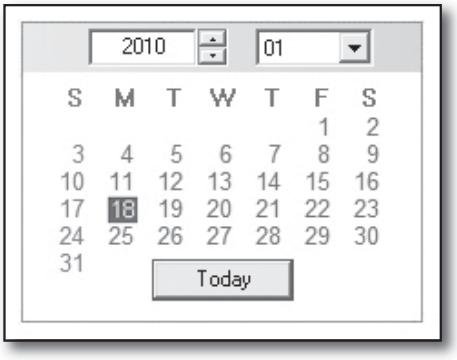
- **RECORD** : If you select a channel and click this button during playback (only play), the video data is saved in a DVR file. (It is saved in the designated folder on your PC.) To stop recording, click this button again.



- To record it, it is required at least 1GB of available space.
- The default saving path is “C:\Program Files\Samsung\Dvr Web Viewer\VideoClip\Search”. To change the saving path, click <**SAVE PATH** (…)> button and then select the path you want. For Windows Vista or 7, the saving path is “C:\users\(user ID)\AppData\LocalLow\Samsung\DVR Web Viewer\VideoClip\” and it cannot be modified.
- The file is automatically named as following : “IP address_Port number_YYYYMMDD_camera number_index” Ex) 192.168.1.200_554_20100101_135105_01_00
- For AVI save, you need the Xvid codec for playing saved files.

SEARCHING THE RECORDED VIDEO IN THE CALENDAR

If the video data has been recorded on a date, the date is distinguished in green. If you click the date, the recorded video information is displayed in the time line. When you click <**Today**>, it is changed to today's date.



SEARCHING THE RECORDED VIDEO IN THE TIMELINE

It displays the recorded video data status on the DVR after a date is selected. The normal mode displays the time ranging from 0 to 24 Hours while the extension mode displays the time every 2 hours.

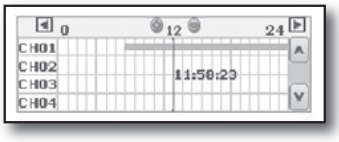
[Normal Mode]

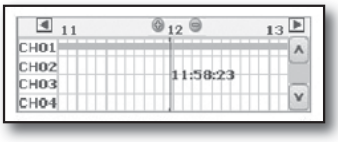
- If you click <⊕> button, it changes to the extension mode.
- Each time line represents 1 hour.

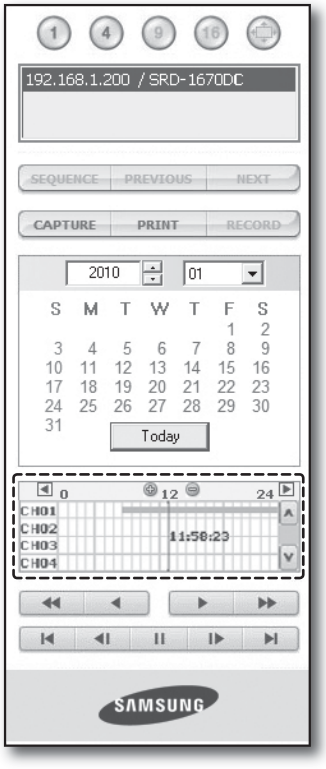
[Extension Mode]

- If you click <⊖> button, it changes to the normal mode.
- Each time line represents 5 minutes.

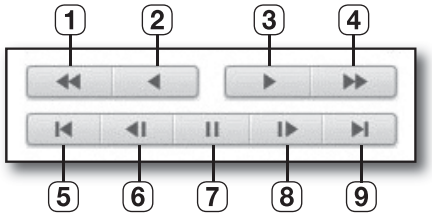
▪ The channels are ranging from CH01 to CH16.

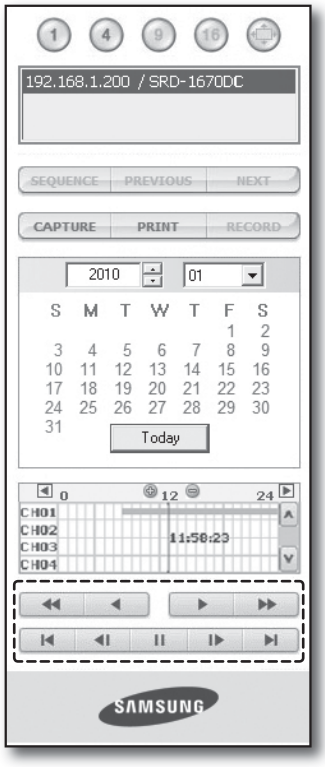






CONTROLLING PLAYBACK





① **Fast Backward** : Reverse-plays faster(2x).
② **Reverse Play** : Performs Reverse Play.
③ **Play** : Performs playback.
④ **Fast Forward** : Plays faster(2x).
⑤ **Go to First** : Moves the beginning time of recorded video in the time line.
⑥ **Step Backward** : Performs one step reverseplay by one frame.
⑦ **Stop** : Stops playing.
⑧ **Step Forward** : Performs one step forward by one frame.
⑨ **Go to Last** : Moves the last time of recorded video in the time line.

VIEWER SETUP

You can configure the DVR settings remotely on the network.
To configure the DVR settings, click <**Setup**>.

System

You can configure the various settings of the DVR system.

Date/Time/Language

For more information, refer to <**Date/Time/Language**> in the <**System Setup**> menu. (Page 34)

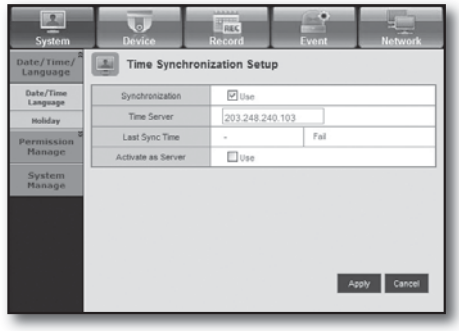
1. Select <**Date/Time/Language**> in the System menu.
2. Configure the DVR settings according to your system environment.

• **Date/Time**

Set the date and time.

• **Time Synchronization Setup**

Set the time synchronization.



• **Display**

Date Format : Set the date type.

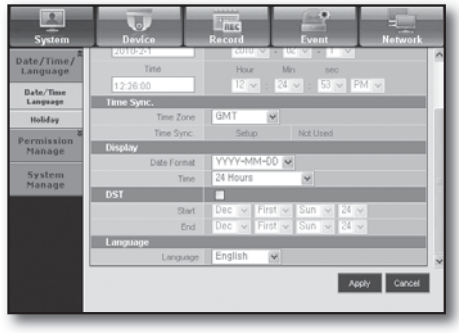
Time : Select a time format to display on the screen.

• **DST (Daylight Saving Time)**

DST is displayed an hour ahead of the standard time of the time zone.

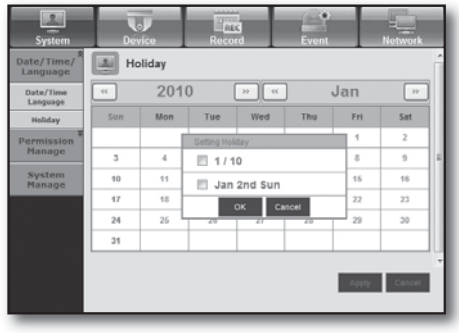
• **Language**

Select a preferred language for the DVR.



Holiday

You can set specific dates to Holidays according to your preferences.
For more information, refer to <**Setting Holiday**> in the <**System Setup**> menu. (Page 35)

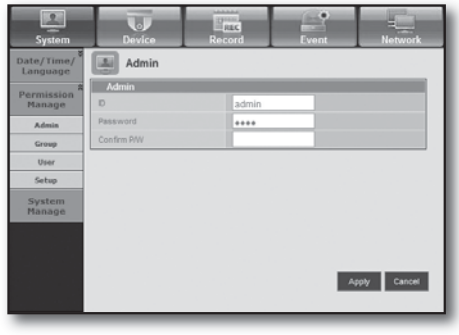


Permission Management

For more information, refer to <**Permission Management**> in the <**System Setup**> menu. (Page 36)

• **Admin**

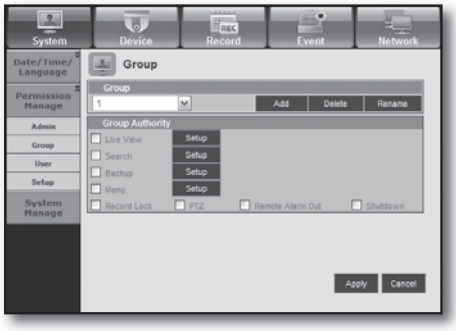
You can change the admin ID or the password.



• **Group**

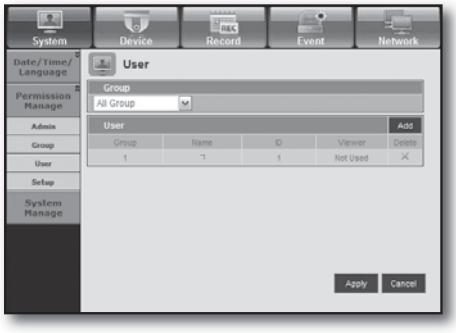
Users are classified into groups and the permission can be set according to the group.

- First of all, add a group.



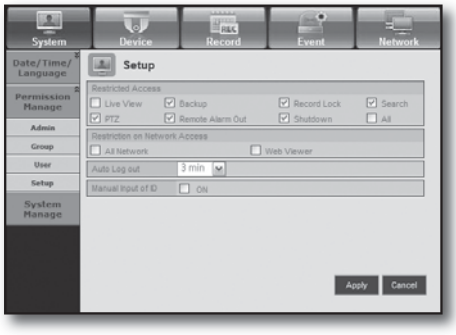
• **User**

You can add, change or remove a user or users.



• **Setup**

You can set the user permission.

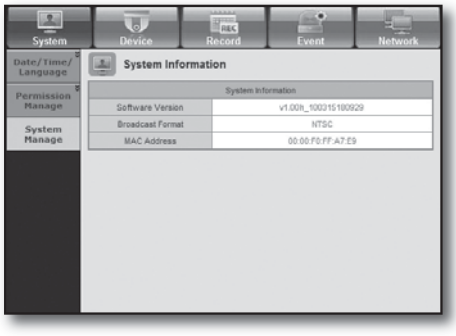


System Management

For more information, refer to <**System Management**> in the <**System Setup**> menu. (Page 40)

• **System Information**

You can see information of the current system. Check the software version, broadcast format and MAC address.



Device

You can check a list of devices that are connected to the DVR and configure the necessary settings.
Click <**Device**> in the menu screen.
For more information, refer to "**Setting the Device**". (Page 44)

Camera

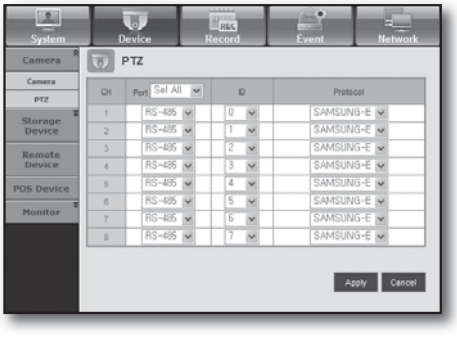
• **Camera**

You can configure the settings of the camera that is connected to the DVR.

- SRD-830DC/1610DC/1630DC supports 1~4 channels of sound inputs.

• **PTZ**

You can configure the settings of the PTZ camera that is connected to the DVR.
Set the Port, ID and protocol.



Storage Device

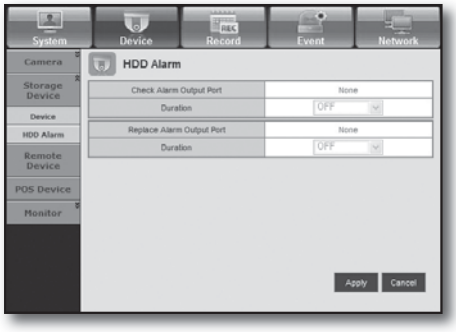
You can check and change the settings of the storage device.

• **Device**

You will see a list of storage devices that are connected to the DVR.
You can check the type, used/total, usage and status of the device.

• **HDD Alarm**

You can set the alarm output channel and the alarm duration for an error.



Remote Device

You can see a list of remote devices including PTZ cameras and system keyboards that are connected to the RS-485 port of the DVR and configure the necessary settings.

POS Device

You can set the channel, preset and communication port of the POS device that is connected to the DVR.

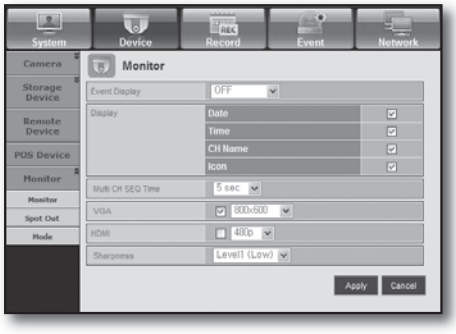
▪ You cannot set to use the POS device remotely.

Monitor

• **Monitor**

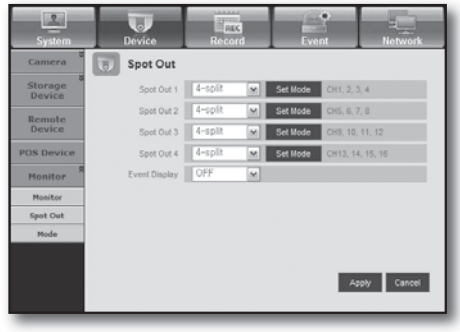
You can configure the monitoring screen settings and set the output system.

▪ SRD-830DC/1610DC/1630DC does not support the HDMI signal.



• **Spot Out**

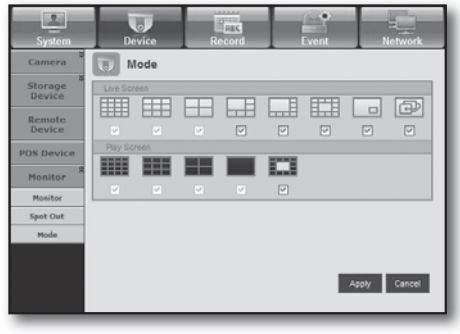
The registered user can view the event screen for the duration set in <**Event Display**> if an event occurs from the appropriate channel.



■ The number of Spot Out terminals differs according to the model.

• **Mode**

You can switch between live mode and play mode.



Record

For more information, refer to <**Setting the Recording**>. (Page 52)

Recording Schedule

If you set a recording schedule for a specific date and time, the recording will start at that specific time.

- Apply to All CH : Click <**Apply to All CH**> to display the confirmation window.

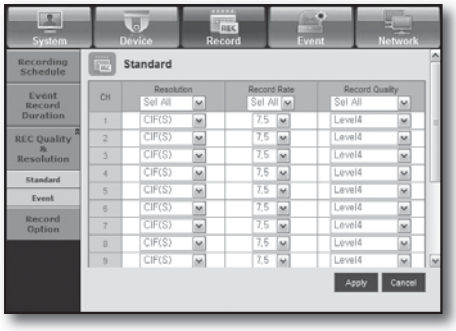
Event Record Duration

You can set the start and end times of recording that will be activated if an event occurs.

REC Quality & Resolution

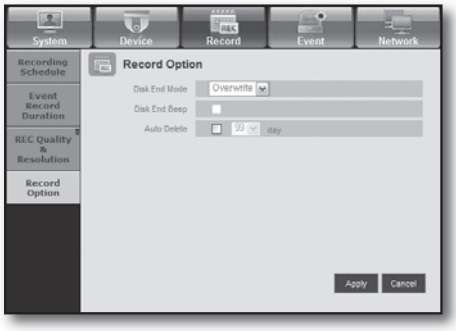
- **Standard/Event**

You can set the resolution, frame rate and recording quality for each channel.



Record Option

You can set the Disk End Mode.

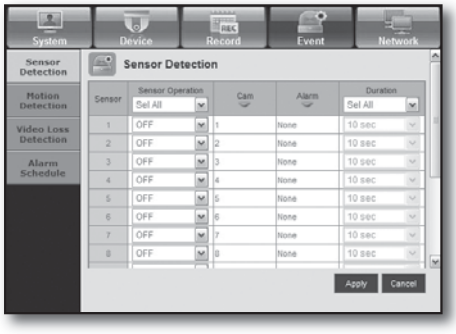


Event

For more information, refer to <**Setting the Event**>. (Page 55)

Sensor Detection

You can set the sensor operation mode and the synchronized camera as well as the alarm output type and the duration.

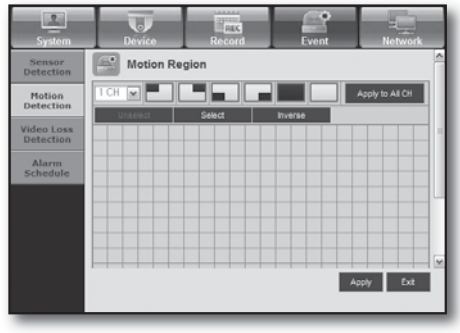


Motion Detection

You can set the motion detection mode and the sensitivity as well as the alarm output type and the duration.

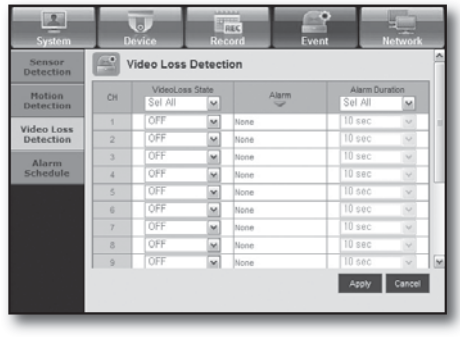
• **Motion Region**

Set the target motion detection area



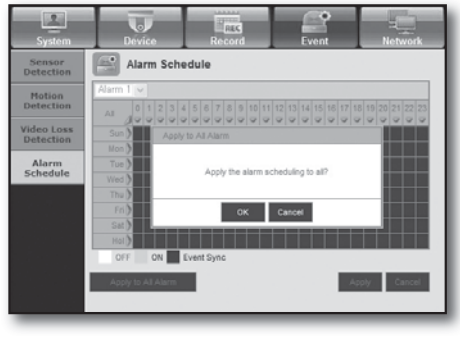
Video Loss Detection

You can set the alarm output time if a video loss occurs.



Alarm Schedule

You can schedule the alarm output according to the day of the week and the time.
The default setting is Event Sync, which activates the alarm only if an event occurs.



Network

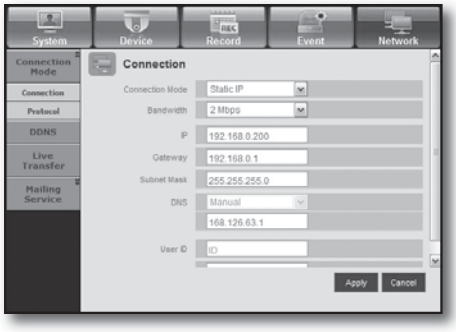
For more information, refer to <**Network Configuration**>. (Page 59)

Connection

A remote user can access the DVR via the network to check the current mode and the IP address.

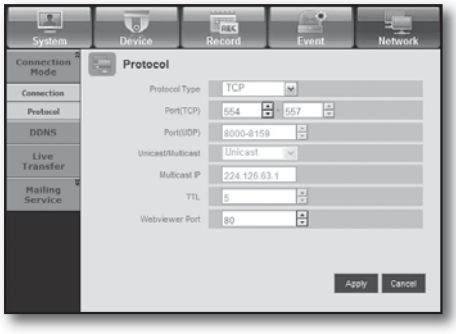
- **Connection**

You can set the network connection route.



- **Protocol**

You can configure the protocol related settings.



DDNS

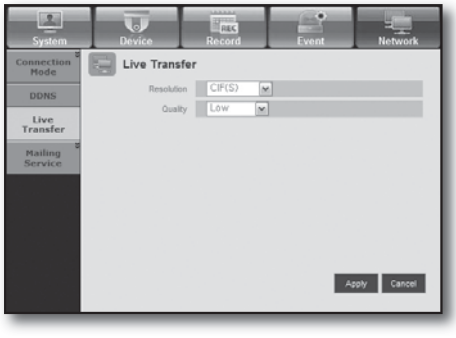
You can check the DDNS settings.

Live Transfer

A remote user can set the images of the DVR.

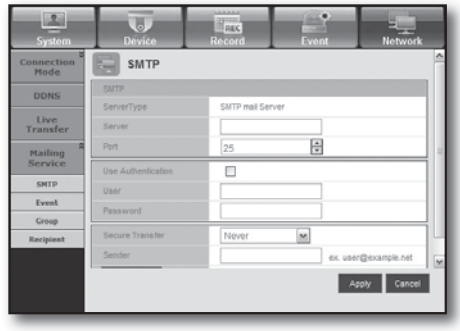
- **Live Transfer**

A remote user can set the image resolution of the transferred data.



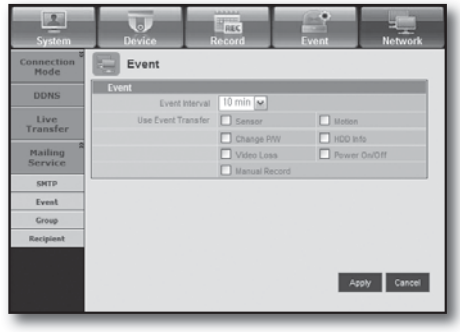
Mailing Service

You can specify the SMTP server that sends a mail if an event occurs and set the recipient group and users.



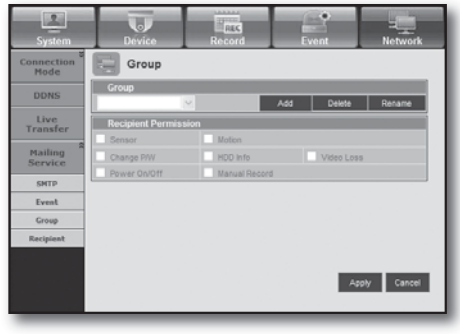
- **SMTP**

You can set the server that sends mails and specify if you use the authentication process.



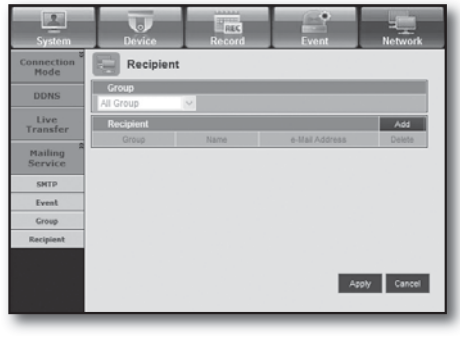
- **Event**

You can set the event interval and specify which events the server sends mails for.



- **Group**

You can add a group to receive the mail if an event occurs and set the permission to receive the event mail for each group.



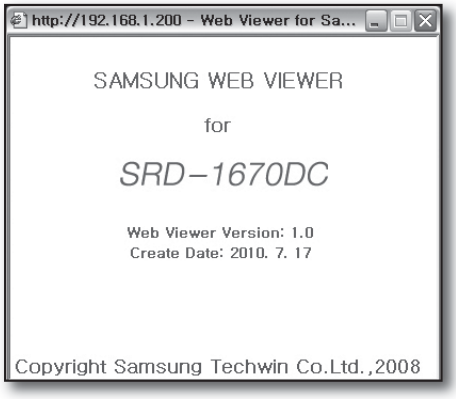
- **Recipient**

You can add a user or users who will receive the mail.

ABOUT

Click <**ABOUT**>.

Displays the model name of connected DVR and the version of Web Viewer.



backup viewer

SEC BACKUP VIEWER

You can play a file that is backed up in the format of SEC.

Backup in the format of SEC will involve in generating two files: one for the backup data and one for the viewer.

If you run the backup file viewer, the backup data file will be automatically played.

Recommended System Requirements

PCs with a lower specification than the recommended below may not fully support forward/backward and high-speed playback.

- OS : Windows XP professional, Windows Vista, Windows 7
- CPU : Intel Core2-Duo 2.4GHz or higher
- RAM : DDR PC-3200 1G or more
- VGA : Geforce 6200 or higher

Name			Description
1	Audio		A toggle button. Each time you press this button, the audio output will toggle between activated and deactivated.
			You can adjust the volume level from 0 to 100.
2	Screen Printout		Saves the current screen as an image file. Supported file formats include BMP and JPEG.
			Prints out the current screen. You should have installed the appropriate printer driver before you can print out the screen.
3	File Tamper Detection		A toggle button. Each time you press this button, it will toggle between activated and deactivated. The closed lock icon indicates activation of the file tamper detection, which will blink the screen three times and stop playing if an unauthorized manipulation of a data file is detected. ▪ A message of "The file is forged" will display in the menu bar.
4	Zoom In/Out		Collapses the time range that is displayed on the range bar of the storage time. You can collapse the range bar until the overall range is shortened to 24 hours.
			Enlarges the time range that is displayed on the range bar of the storage time. You can enlarge the range bar until the overall range is extended to 1 minute.
5	Display of storage time range		Displays the time range of a stored video file. You can move the gridline of the range bar to select a time point to play.
6	Speed		A toggle button; each time you press this button, the "Slow Playback " icon changes its color to display it's activated/deactivated. If it is activated, you can use the play speed control to adjust the play speed up to x1/32 forward and backward respectively, whereas if deactivated, you can adjust up to x32 forward and backward.
			A toggle button; each time you press this button, the "Lock Speed" icon changes its color to display it's activated/deactivated. If activated, the adjusted speed will be kept even if you release the mouse on the speed bar. If deactivated, the adjusted speed will be applied only while you use the mouse to hold the adjusted speed, and if you release the mouse, the speed will restore to x1.
			You can adjust the play speed up to x32 forward and backward respectively, which varies according to the frame rate per second of the source. If the frame rate per second is between 20 and 30, the maximum speed is limited to x4, if the FPS is between 11 and 19, it is limited to x16, and if the FPS is 6 or less, it supports up to x32.
7	Play		Displays the next frame. This is available only if the playback is stopped.
			A toggle button. Press it once to start playing the video and switch the button mode to 'Pause', and press it again to switch the button mode to Play and stop playing temporarily.
			Displays the previous frame. This is available only if the playback is stopped.

PRODUCT SPECIFICATION (SRD-830DC/1610DC/1630DC)

<table>
<tr><th colspan="2">Item</th><th>Details</th><th>Note</th></tr>
<tr><td colspan="2">Operating System</td><td>Embedded OS</td><td></td></tr>
<tr><td colspan="2">Broadcast Format</td><td>NTSC/PAL System</td><td></td></tr>
<tr><td colspan="2">Input Voltage</td><td>AC 100~240V</td><td></td></tr>
<tr><td colspan="2">Power Consumption</td><td>SRD-830DC/1610DC/1630DC : 55W</td><td></td></tr>
<tr><td rowspan="2">Video</td><td>Video In</td><td>Composite 16(8) Channel
- 1.0Vp-p
- 75Ω Hi Z Termination
BNC Type
Loop Through Out 16(8) Channel
- Auto Termination</td><td></td></tr>
<tr><td>Video Out</td><td>Composite 2 Channel
- Normal Video Output 1 Channel
- Spot Output 1
- BNC Type
VGA 1 Channel</td><td></td></tr>
<tr><td rowspan="2">Audio</td><td>Audio In</td><td>Mono 4 Channel
4 Channel : RCA Type
- 5dBm, 600Ω</td><td></td></tr>
<tr><td>Audio Out</td><td>Mono 1 Channel
- 6dBm
RCA Type</td><td></td></tr>
<tr><td rowspan="2">Live Screen</td><td>Resolution & Frame Rate</td><td><table><tr><th></th><th>NTSC</th><th>PAL</th></tr><tr><td>Resolution</td><td>704x480</td><td>704x576</td></tr><tr><td>Frame Rate</td><td>480ips(16Ch)/
240ips(8Ch)</td><td>400ips(16Ch)/
200ips(8Ch)</td></tr></table></td><td></td></tr>
<tr><td>Display Mode</td><td>Single
Split Modes:
16CH : 4-, 6-, 8-, 9-, 13-, 16- splits
8CH : 4-, 6-, 8-, 9-, 13- splits
PIP
Mode sequence
Freeze
2 X Zoom</td><td></td></tr>
</table>

<table>
<tr><th colspan="2">Item</th><th>Details</th><th>Note</th></tr>
<tr><td rowspan="4">Record</td><td>Compression Method</td><td>Video : H.264
Audio : G.723</td><td></td></tr>
<tr><td>Resolution & Quality</td><td>
<table>
<tr><th>Resolution</th><th>Spec. (Quality)</th><th>Max Recording Rate</th></tr>
<tr><td>CIF(S)
352X240(NTSC)
/352X288(PAL)</td><td>Level8 (high)
~ Level1 (low)</td><td>240(120)ips(NTSC)/
200(100)ips(PAL)</td></tr>
<tr><td>2CIF(M)
704x240(NTSC)
/704x288(PAL)</td><td>Level8 (high)
~ Level1 (low)</td><td>120(60)ips(NTSC)/
100(50)ips(PAL)</td></tr>
<tr><td>4CIF(L)
704x480(NTSC)
/704x576(PAL)</td><td>Level8 (high)
~ Level1 (low)</td><td>60(30)ips(NTSC)/
50(25)ips(PAL)</td></tr>
</table>
</td><td>
<table>
<tr><td>SRD-1630DC
(SRD-1610DC
/830DC)</td></tr>
<tr><td>SRD-1630DC
(SRD-1610DC
/830DC)</td></tr>
<tr><td>SRD-1630DC
(SRD-1610DC
/830DC)</td></tr>
</table>
</td></tr>
<tr><td>Record Mode</td><td>Normal Recording → REC button
Scheduled Recording → Schedule Table
Event Recording
- Alarm Detection
- Motion Detection
- Video Loss
- Pre & Post Recording</td><td></td></tr>
<tr><td>Frame Rate</td><td>NTSC : 0.9, 1.9, 3.8, 7.5, 15, 30ips
PAL : 0.8, 1.6, 3.1, 6.2, 12.5, 25ips</td><td></td></tr>
<tr><td>Storage</td><td>Internal</td><td>SRD-830DC/1610DC/1630DC : SATA HDDx5(MAX)
MAX HDD size : 1TB x 5 = 5TB</td><td>If you want to add an internal HDD, please refer to “Adding a HDD”. (Page 15)</td></tr>
<tr><td rowspan="2">Play</td><td>Search Mode</td><td>Calendar Search
Event Search
- Alarm, Motion, Video Loss
Time/Date Search
Go to First
Go to Last
Backup Search
Text Search(for POS)
Motion Search
Preview</td><td></td></tr>
<tr><td>Resolution & Specification</td><td>
<table>
<tr><th>Resolution</th><th>Specification</th></tr>
<tr><td>CIF(S)
352X240(NTSC)
/352X288(PAL)</td><td>240(120)ips(NTSC)/
200(100)ips(PAL)</td></tr>
<tr><td>2CIF(M)
704x240(NTSC)
/704x288(PAL)</td><td>120(60)ips(NTSC)/
100(50)ips(PAL)</td></tr>
<tr><td>4CIF(L)
704x480(NTSC)
/704x576(PAL)</td><td>60(30)ips(NTSC)/
50(25)ips(PAL)</td></tr>
</table>
</td><td>
<table>
<tr><td>SRD-1630DC
(SRD-1610DC
/830DC)</td></tr>
<tr><td>SRD-1630DC
(SRD-1610DC
/830DC)</td></tr>
<tr><td>SRD-1630DC
(SRD-1610DC
/830DC)</td></tr>
</table>
</td></tr>
</table>

appendix

Item		Details	Note
Play	Display Mode	Single /4-/9-/13-/16-splits	SRD-1610DC SRD-1630DC
		Single /4-/9-/13-splits	SRD-8300DC
	Play Mode	Play, Pause, Stop, 2xDigital Zoom Fast Forward/Fast Reverse - 2x, 4x, 8x,16x, 32x, 64x	
Backup		USB External HDD USB CD/DVD Writer, Internal DVD USB Memory USB HDD-MAX 1(USB hub not supported)	
Network		Ethernet : 10/100/1000 BaseT, ADSL(PPPoE), DHCP	
Serial Communication		RS-485, Coaxial → PTZ Device Control Remote Control Device RS-232C → POS	
Alarm		Input : SRD-1610DC/1630DC : 16 channels SRD-830DC : 8 channels	
Remote Viewer	PC Requirements	CPU : Intel Core 2 Quad 2.5GHz or higher RAM : 2G VGA : 32M RAM(64M or more) DirectX 8.1	
	Operating Systems	Windows XP(Pro), Windows-2000(Pro) Windows Vista(Home Basic/Premium) Windows 7	
	Features	Live Image Monitoring Mode Local File Search & Play Back Mode Remote File Search & Play Back Mode	
Temperature (Operation)		0°C ~ 40°C (32°F ~ 104°F)	
Temperature (Storage)		-20°C ~ 60°C (-4°F ~ 140°F)	
Humidity (Operation)		20% to 85% RH	
Humidity (Storage)		20% to 85% RH	
Dimension (W x H x D)		440 x 88 x 430mm (17.32 x 3.46 x 16.92 inch)	H (leg not included)
Weight		SRD-830DC : ~7.42Kg(16.35lb) SRD-1610DC/1630DC : ~7.55Kg(16.64lb)	

It needs extra H/W to support ATM/POS function. So please contact your vendor to obtain H/W.

PRODUCT SPECIFICATION (SRD-850DC/870DC/1650DC/1670DC)

<table>
<tr><th colspan="2">Item</th><th>Details</th><th>Note</th></tr>
<tr><td colspan="2">Operating System</td><td>Embedded OS</td><td></td></tr>
<tr><td colspan="2">Broadcast Format</td><td>NTSC/PAL System</td><td></td></tr>
<tr><td colspan="2">Input Voltage</td><td>AC 100~230V (PAL)
AC 110~220V (NTSC)</td><td></td></tr>
<tr><td colspan="2">Power Consumption</td><td>SRD-870DC : 56W
SRD-1670DC : 60W
SRD-850DC/1650DC : 55W</td><td></td></tr>
<tr><td rowspan="2">Video</td><td>Video In</td><td>Composite 16(8) Channel
- 1.0Vp-p
- 75Ω Hi Z Termination
BNC Type
Loop Through Out 16(8) Channel
- Auto Termination</td><td></td></tr>
<tr><td>Video Out</td><td>Composite 5 Channel(SRD-1670DC)
3 Channel(SRD-870DC)
2 Channel(SRD-850DC/1650DC)
- Normal Video Output 1 Channel
- Spot Output 4 (SRD-1670DC), 2 (SRD-870DC)
1 (SRD-850DC/1650DC)
- BNC Type
VGA 1 Channel
HDMI 1 Channel</td><td></td></tr>
<tr><td rowspan="2">Audio</td><td>Audio In</td><td>Mono 16(8) Channel
- 5dBm, 600Ω
4 Channel : RCA Type
12 Channel : d-sub Accessory (Optional)</td><td></td></tr>
<tr><td>Audio Out</td><td>Mono 1 Channel
- 6dBm
RCA Type</td><td></td></tr>
<tr><td rowspan="2">Live Screen</td><td>Resolution & Frame Rate</td><td><table><tr><th></th><th>NTSC</th><th>PAL</th></tr><tr><td>Resolution</td><td>704x480</td><td>704x576</td></tr><tr><td>Frame Rate</td><td>480ips(16Ch)/
240ips(8Ch)</td><td>400ips(16Ch)/
200ips(8Ch)</td></tr></table></td><td></td></tr>
<tr><td>Display Mode</td><td>Single
Split Modes : 16CH : 4-, 6-, 8-, 9-, 13-, 16- splits
8CH : 4-, 6-, 8-, 9-, 13- splits
PIP
Mode sequence
Freeze
2 X Zoom</td><td></td></tr>
</table>

appendix

<table>
<tr><th colspan="2">Item</th><th>Details</th><th>Note</th></tr>
<tr><td rowspan="4">Record</td><td>Compression Method</td><td>Video : H.264
Audio : G.723</td><td></td></tr>
<tr><td>Resolution & Quality</td><td>
<table>
<tr><th>Resolution</th><th>Spec. (Quality)</th><th>Max Recording Rate</th></tr>
<tr><td>CIF(S)
352X240(NTSC)
/352X288(PAL)</td><td>Level8 (high)
~ Level1 (low)</td><td>480(240)ips(NTSC)/
400(200)ips(PAL)</td></tr>
<tr><td>2CIF(M)
704x240(NTSC)
/704x288(PAL)</td><td>Level8 (high)
~ Level1 (low)</td><td>240(120)ips(NTSC)/
200(100)ips(PAL)</td></tr>
<tr><td>4CIF(L)
704x480(NTSC)
/704x576(PAL)</td><td>Level8 (high)
~ Level1 (low)</td><td>120(60)ips(NTSC)/
100(50)ips(PAL)</td></tr>
<tr><td>CIF(S)
/2CIF(M)
/4CIF(L)</td><td>Level8 (high)
~ Level1 (low)</td><td>480(240)ips(NTSC)/
400(200)ips(PAL)</td></tr>
</table>
</td><td>SRD-1650DC
(SRD-850DC)

RD-1650DC
(SRD-850DC)

SRD-1650DC
(SRD-850DC)

SRD-1670DC
(SRD-870DC)</td></tr>
<tr><td>Record Mode</td><td>Normal Recording → REC button
Scheduled Recording → Schedule Table
Event Recording
- Alarm Detection
- Motion Detection
- Video Loss
- Pre & Post Recording</td><td></td></tr>
<tr><td>Frame Rate</td><td>NTSC : 0.9, 1.9, 3.8, 7.5, 15, 30ips
PAL : 0.8, 1.6, 3.1, 6.2, 12.5, 25ips</td><td></td></tr>
<tr><td rowspan="2">Storage</td><td>Internal</td><td>SRD-850DC/870DC/1650DC/1670DC : SATA HDDx5(MAX)
MAX HDD size : 1TB x 5 = 5TB</td><td rowspan="2">If you want to add an internal HDD, please refer to “Adding a HDD”. (Page 15)</td></tr>
<tr><td>External</td><td>USB HDD
- MAX 1 (USB hub not supported)
- MAX HDD Size : 500GB
SATA HDD
- 2 Port
- MAX 1HDD/port
- MAX HDD Size : 500GB</td></tr>
<tr><td>Play</td><td>Search Mode</td><td>Calendar Search
Event Search
- Alarm, Motion, Video Loss
Time/Date Search
Go to First
Go to Last
Backup Search
Text Search(for POS)
Motion Search
Preview</td><td></td></tr>
</table>

<table>
<tr><th colspan="2">Item</th><th>Details</th><th>Note</th></tr>
<tr><td rowspan="5">Play</td><td rowspan="4">Resolution & Specification</td><td>
<table>
<tr><th>Resolution</th><th>Specification</th></tr>
<tr><td>CIF(S)
352X240(NTSC)
/352X288(PAL)</td><td>480(240)ips(NTSC)/
400(200)ips(PAL)</td></tr>
<tr><td>2CIF(M)
704x240(NTSC)
/704x288(PAL)</td><td>240(120)ips(NTSC)/
200(100)ips(PAL)</td></tr>
<tr><td>4CIF(L)
704x480(NTSC)
/704x576(PAL)</td><td>120(60)ips(NTSC)/
100(50)ips(PAL)</td></tr>
<tr><td>CIF(S)
/2CIF(M)
/4CIF(L)</td><td>480(240)ips(NTSC)/
400(200)ips(PAL)</td></tr>
</table>
</td><td>SRD-1650DC
(SRD-850DC)

SRD-1650DC
(SRD-850DC)

SRD-1650DC
(SRD-850DC)

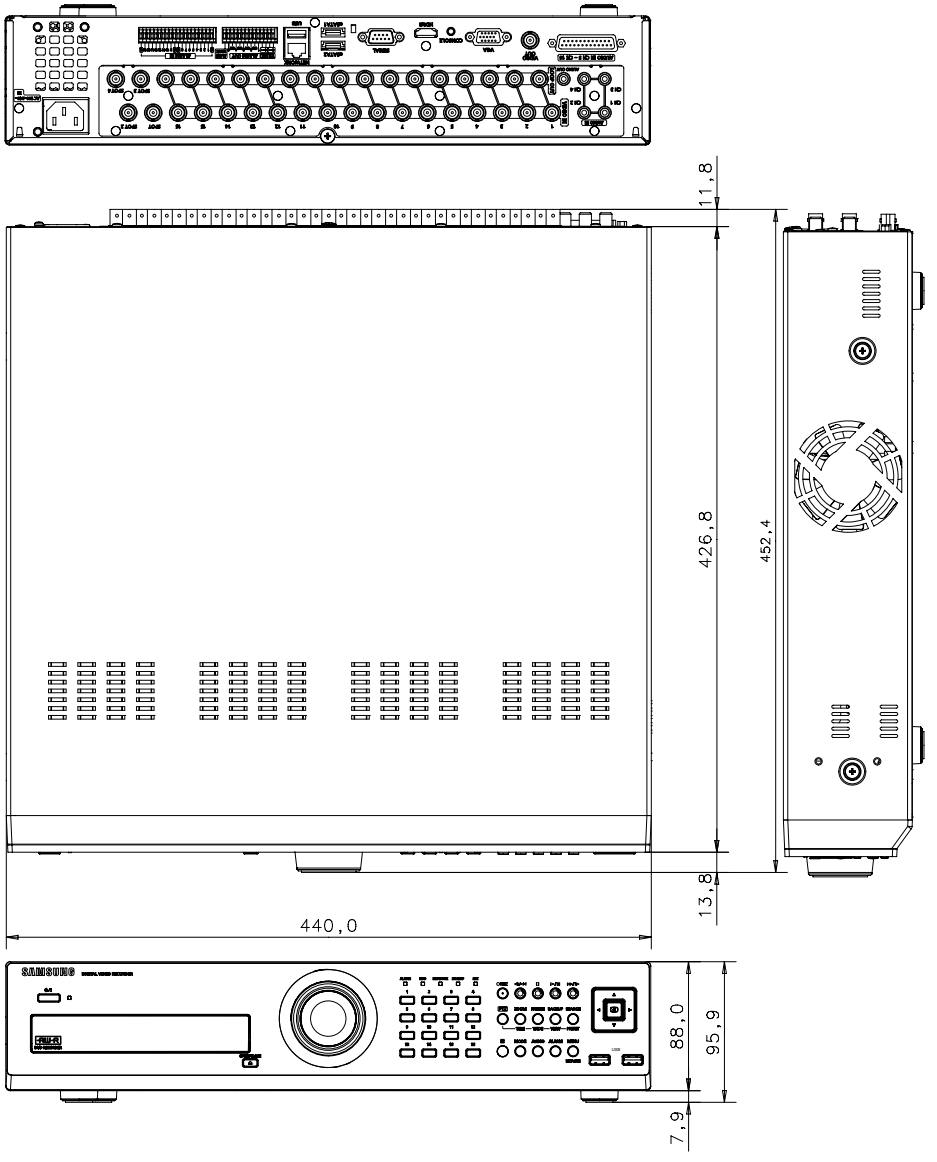
SRD-1670DC
(SRD-870DC)</td></tr>
<tr><td>Display Mode</td><td>Single /4-/9-/13-/16-splits</td><td></td></tr>
<tr><td>Play Mode</td><td>Play, Pause, Stop, 2xDigital Zoom
Fast Forward/Fast Reverse - 2x, 4x, 8x,16x, 32x, 64x</td><td></td></tr>
<tr><td colspan="2">Backup</td><td>USB External HDD
USB CD/DVD Writer,Internal DVD
USB Memory
USB HDD-MAX 1(USB hub not supported)
SATA HDD-MAX 1</td><td></td></tr>
<tr><td colspan="2">Network</td><td>Ethernet : 10/100/1000 BaseT, ADSL(PPPoE), DHCP</td><td></td></tr>
<tr><td colspan="2">Serial Communication</td><td>RS-485, Coaxial → PTZ Device Control
Remote Control Device
RS-232C → POS</td><td></td></tr>
<tr><td colspan="2">Alarm</td><td>Input : SRD-1650DC/1670DC : 16 channels
SRD-850DC/870DC : 8 channels</td><td></td></tr>
<tr><td rowspan="3">Remote Viewer</td><td>PC Requirements</td><td>CPU : Intel Core 2 Quad 2.5GHz or higher
RAM : 2G
VGA : 32M RAM(64M or more)
DirectX 8.1</td><td></td></tr>
<tr><td>Operating Systems</td><td>Windows XP(Pro),
Windows-2000(Pro)
Windows Vista(Home Basic/Premium)
Windows 7</td><td></td></tr>
<tr><td>Features</td><td>Live Image Monitoring Mode
Local File Search & Play Back Mode
Remote File Search & Play Back Mode</td><td></td></tr>
<tr><td colspan="2">Temperature (Operation)</td><td>0°C ~ 40°C (32°F ~ 104°F)</td><td></td></tr>
<tr><td colspan="2">Temperature (Storage)</td><td>-20°C ~ 60°C (-4°F ~ 140°F)</td><td></td></tr>
<tr><td colspan="2">Humidity (Operation)</td><td>20% to 85% RH</td><td></td></tr>
<tr><td colspan="2">Humidity (Storage)</td><td>20% to 85% RH</td><td></td></tr>
<tr><td colspan="2">Dimension (W x H x D)</td><td>440 x 88 x 430mm (17.32 x 3.46 x 16.92 inch)</td><td>H (leg not included)</td></tr>
<tr><td colspan="2">Weight</td><td>SRD-850DC/870DC : ~7.42Kg(16.35lb)
SRD-1650DC/1670DC : ~7.55Kg(16.64lb)</td><td></td></tr>
</table>

It needs extra H/W to support ATM/POS function. So please contact your vendor to obtain H/W.

appendix

PRODUCT OVERVIEW

- SRD-1670DC



DEFAULT SETTING

This returns the factory default settings.

The settings are made as follows;

- Use System/Load Factory Default in MENU

■ The default settings are based on SRD-1670DC.

Category	Details			Factory Default
System Settings	Date/Time/Language	Date/Time/Language	Date	YYYY-MM-DD
			Time Format	24 hours
			Time Zone	GMT
			Time Synchronize	OFF
			DST	OFF
			Language	English
	Permission Management	Admin	ID	admin
			New Password	4321
		Setting	Restricted Access	LIVE VIEW : OFF
			Auto Logout	3 Min
	System Management	System Information	Broadcast Format	NTSC/PAL
Device	Camera	Camera	Video	ON
			Audio	OFF
			CH Name	CAM 01 ~ CAM 16
			SEQ-Dwell Time	5sec
		PTZ	Port	RS-485
			ID	0~15
			Protocol	None
		Screen Setup	Brightness	50
			Contrast	50
			Color	50
	Storage Device	HDD Alarm	Check Alarm Output Port	OFF
			Duration	OFF
			Replace Alarm Output Port	OFF
			Duration	OFF
	Remote Device	Baudrate		9600
		Parity		None
		Data		8
		Stop bit		1
		Transfer Type		Half Duplex
		System Keyboard		OFF
		Remote Control		ON(00)

appendix

Category	Details			Factory Default
Device	POS Device			OFF
	Monitor	Monitor	Display	All
			Switch to Split Screen	5 sec
			VGA	800x600
			HDMI	480p
			Sharpness	Level1(Low)
			Display Position Setup	30
		Spot Out	Spot Out 1	CH1 ~ CH4
			Spot Out 2	CH5 ~ CH8
			Spot Out 3	CH9 ~ CH12
			Spot Out 4	CH13 ~ CH16
			Event Display	OFF
		Mode	Live Mode	ALL
			Play Mode	ALL
Recording	Recording Schedule	Channel 1		Event
	Event Record Duration	PRE Event		OFF
		POST Event		1 min
	REC Quality/ Resolution	Normal Recording	Resolution	CIF(S)
			Frame Rate	7.5 ips
			Record Quality	Level 4
		Event	Resolution	4CIF(L)
			Frame Rate	30 ips
			Record Quality	Level 4
	Record Option	Disk End Mode	Setup	Overwrite
			Disk End Beep	OFF
		Auto Delete		OFF
	Event	Sensor Detection	Sensor Operation	OFF
			Camera	Camera No.
			Alarm	None
			Duration	10 sec
		Motion Detection	Mode	OFF
			Sensitivity	Very High
			Alarm	None
			Duration	10 sec
		Motion Region		All Area

Category	Details			Factory Default
Recording	Event	Video Loss Detection	Video Loss State	OFF
			Alarm	None
			Duration	10 sec
Network	Connection Mode	Connection	Connection Mode	Static IP
			Bandwidth	2Mbps
			IP	192.168.1.200
			Gateway	192.168.1.1
			Subnet Mask	255.255.255.0
			DNS	168.126.63.1
		Protocol	Protocol Type	TCP
			Port (TCP)	554~557
			Webviewer Port	80
	DDNS	DDNS Site		OFF
	Live Transfer	Resolution		CIF(S)
		Quality		Low
	Mailing Service	SMTP	Server	OFF
			Port	25
			Use Authentication	OFF
			Secure Transfer	Never
		Group	Group	OFF
			Recipient Permission	OFF
		Event	Event Interval	10 min
			Use Event Transfer	OFF

appendix

TROUBLESHOOTING

Symptom	Countermeasures
The system does not turn on and the indicator on the front panel does not work at all.	• Check if the power supply system is properly connected. • Check the system for the input voltage from the power source. • If the problem persists even after you have taken the above actions, check the power supplier and replace it with a new one if neccessary.
Some channels display just a black screen even if they receive video sources.	• Check if the camera connected to the system properly displays the image. Sometimes, this problem may occur on a camera that is not properly connected to the video source. • Check if the camera is properly supplied with power. • Sometimes, this problem may occur on a channel with weak video signal from a video distributor that is connected to multiple systems. In this case, input the video source of the camera directly into the DVR. This may find the cause and solve the problem.
If I press the [**REC**] button on the front panel, the REC indicator does not flash, nor the player start recording.	• Check if there is a free space on the HDD for the recording. • Check if the record mode is set to **ON** in the record mode setting.
The screen displays the logo image repeatedly.	• This may occur from a problem with the main board, or the related software is corrupt. Contact the nearest service center for more information.
The Channel button does not work on the Live screen.	• The Channel button does not work if the current screen is in the event monitoring mode. In the event monitoring screen, press the [**ALARM**] button to exit the screen and select a channel.
The cursor will not move to the Start button when I start the calendar search.	• Check if the channel and the date that you want to play are marked with the V symbol. Both channel and date should be checked before you can start playing with the Start button.
When the alarm sounds, I press the [**ALARM**] button on the front panel to release the alarm but it does not work. The alarm persists and I could not set it off in any way.	• Press the [**MENU**] button on the front panel to release the alarm in the following way: 1) To release the event monitoring mode : Monitoring Mode – set the duration of the event monitoring to Off. 2) To release the alarm sound : Event Record Mode - Alarm (Motion Detection/Video Loss) – deactivate the alarm sound. 3) To release the event : Event Record Mode - Alarm (Motion Detection/ Video Loss) – set the mode to Off.
No response is made even if I press the [**PTZ**] button on the Live screen.	• Menu → Camera → Check if the current protocols and other settings in the PTZ device are properly configured according to the PTZ camera.

Symptom	Countermeasures
I've found that the DVR does not recognize as many disks as installed when I have connected multiple external HDDs to the DVR.	• It takes time for the DVR to recognize multiple external HDDs. Try again in a moment and if the problem (of failure to recognize as many HDDs as connected) persists, it may occur due to a mechanical error of the HDD installed. Try again with a different HDD.
A message of "Need to reset date/time." Is displayed on the screen.	• This message is displayed if there occurs a problem with the time setting of the internal clock or an error in the clock itself. Contact the retailer or the service center for more information.
The time bar is not displayed in Search mode.	• The timeline can switch between normal and extension mode. In extension mode, the time bar may not be displayed in the current timeline. Switch to normal mode or use the left or right button to navigate through the time bar.
The "NO HDD" icon and an error message are displayed.	• Check the HDD for connection. If the problem persists in a normal condition, contact the nearest service center to have the HDD checked by the service personnel.
I have installed an additional HDD on the DVR but it does not recognize the HDD.	• See the compatibilty list to check if the additional HDD is supported by the DVR. For the compatibility list, contact the retailer where you purchased the DVR.
I have connected an external storage device (external SATA HDD) to the DVR but the DVR seems not to recognize it.	• See the compatibility list of external storage devices to check if the connected device is supported by the DVR. For the compatibility list, contact the retailer where you purchased the DVR.
If I press the ESC key in full screen mode of the WebViewer, the system does not switch to a normal split mode.	• Press the ALT+TAB keys to select 'ACTIVE MOVIE' and press the ESC key again. The system will switch to a normal split mode.
I found it difficult to configure the network settings if using the default search, backup and router settings.	• For more information, refer to the user manual. • If you want to check the basics of the product for a quick start, refer to the quick start guide (backup, search). • If you use the router for network connection, refer to the "**Connecting to the Internet using the router**" section in this manual.
I forgot the password.	• Contact the DVR administrator for help.
Backup data is just not played by the PC or DVR.	• When you are backing up data, you have choices about the player either: PC or DVR. Make your selection before proceeding. • If you are using the PC to play the data, the format of the backup file should be either AVI or SEC. • If you are using the DVR for this purpose, formatting backup files should be done by the DVR.
My player does not switch to Live mode while in playback.	• Press the Stop [■] button on the DVR or the remote control, or click the [■] icon on the launcher to switch to Live mode.

Symptom	Countermeasures
Recording does not work.	• If your player does not display a Live image at all, that indicates recording does not work so first check if you see an image on the screen. • Recording does not work if the recording settings are not properly configured. 1) Manual Record: Press the [**REC**] button on the front panel of the DVR or on the remote control to start recording. 2) Scheduled Record: Specify a desired time in Menu – Record - Recording Schedule. Recording will start at the specified time. - <**Continuous**> Record: Recording will proceed in any conditions at the specified time. - <**Event**> Record: When an event occurs, recording will perform only if the event is of alarm, motion detection and video loss. If there is no event found, recording will not perform. - <**Continuous / Event**> Record: If there is no event found, Continuous recording will perform. Whereas, if an event occurs, Event recording will perform.
The image quality of the recording data is not good.	• Increase the resolution and quality level in Menu – Record – Quality / Resolution. 1) Resolution: Select a bigger size when specifying the recording size. (4CIF>2CIF>CIF) The recording image in the CIF format shows a deteriorated quality as it is enlarged from a small-sized image. 2) Record Quality: Specify a bigger level for the recording quality. • If you increase the resolution and the recording quality, the data size increases accordingly. So the HDD will be filled faster. Overwriting will overwrite the existing data so recording will proceed at a shorter interval.

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